Demographic Analyses and Enrollment Forecasts
San Francisco Unified School District

This dynamic document will be updated as additional information becomes available.

February 16, 2018[1]

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[1] CBEDS enrollment data for fall 2017 were not available at the time this report was prepared.

Executive Summary

The housing construction under way and planned in the City will add many students to San Francisco Unified School District's (SFUSD's, the District's) schools. Four neighborhoods are being transformed by new development (Mission Bay, Candlestick Point, Hunters Point Shipyard/San Francisco Shipyard, and Treasure/Yerba Buena Islands), and a large part of Parcmerced is being re-built. Moreover, approximately as many housing units will be built outside these neighborhoods as in them.

By 2040, after all the new housing is occupied, we expect at least 7,000 new SFUSD students, and there could be as many as 16,000. The total depends on the characteristics of the new housing and the degree to which the neighborhoods appeal to families with children. A portion of all new housing is required to be "affordable" or "below-market-rate," and these types of units usually house many children, unless they are specifically targeted to special populations like seniors or homeless individuals. Plans for some of the new neighborhoods include the requirement that there be an average of two bedrooms per unit, and larger units tend to generate more SFUSD students.

Currently, construction is booming, and the forecasts assume that this pace continues. If there is an economic turndown or other factors slow construction, we expect delays in the arrival of new SFUSD students.

In addition to future housing effects, we must also consider whether enrollments from existing housing might change because of gentrification or other demographic trends. Between 2001 and 2008, the District's kindergarten cohorts were abnormally small. In fall 2016, these cohorts were enrolled in grades 8 through 12. As these cohorts graduate and are replaced by larger cohorts, enrollments will increase.

Meanwhile, the number of births to San Francisco residents has been remarkably stable during the last 15 years. This suggests that elementary enrollments from existing housing will remain stable in the foreseeable future. It also means that once the 2001-2008 kindergarten cohorts graduate from middle and high school, enrollments in middle and high school will stabilize, as well. Thus, the only major shift expected in the number of SFUSD students from existing housing is an increase in high school enrollment over the next five years.

Charts 1 and 2 show historical enrollments in SFUSD, along with the new forecasts. By 2030, total enrollments could range from 64,000 to 73,000, up from 57,500 students in fall 2016.

Many San Francisco children are enrolled in private schools (about 25 percent). This rate is much higher than the state's average of nine percent. If the share of parents sending their children to private schools were to shrink, enrollments in SFUSD public schools could increase. However, City residents' preference for private schools is long-standing. Review of data from various sources leads us to believe that San Francisco's private school enrollments have been stable, even during the 2008 economic reversal, and did not contribute to the increase in SFUSD's elementary enrollments after 2007. Instead, elementary enrollment growth was caused mostly by an increase in the number of births and resulting kindergarten enrollments five years later.

Chart 1

Total Enrollment Forecast: Grades K to 12

- - - Using Historical Yield Values
- - - Using Modified Yield Values
—— Actual

Chart 2

Total Enrollment Forecast: Grades K to 5

- Using Historical Yield Values
- Using Modified Yield Values
- Actual

Total Enrollment Forecast: Grades 6 to 8

- Using Historical Yield Values
- Using Modified Yield Values
- Actual

Total Enrollment Forecast: Grades 9 to 12

- Using Historical Yield Values
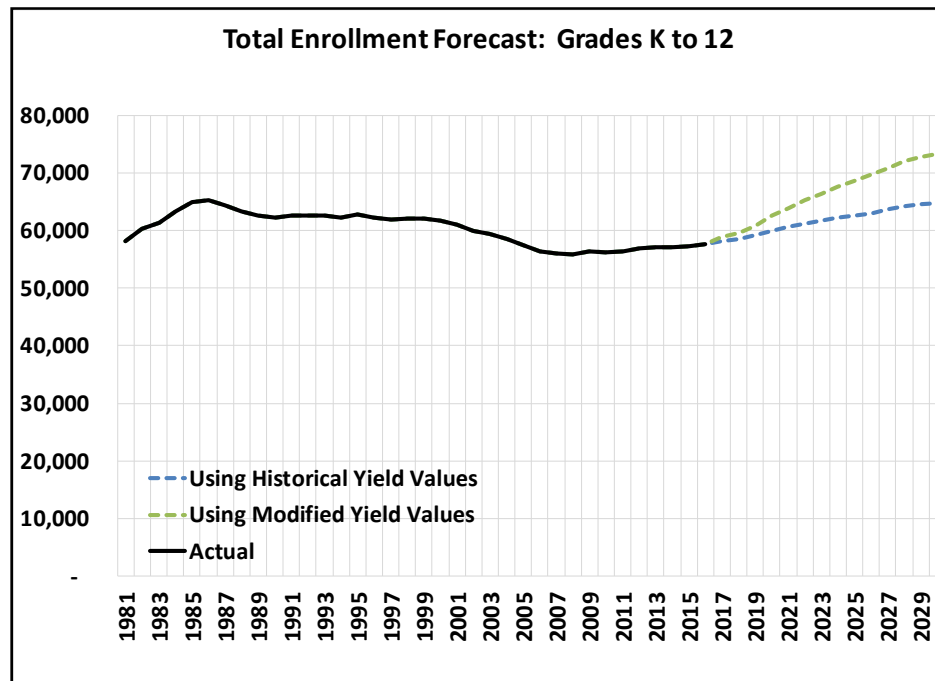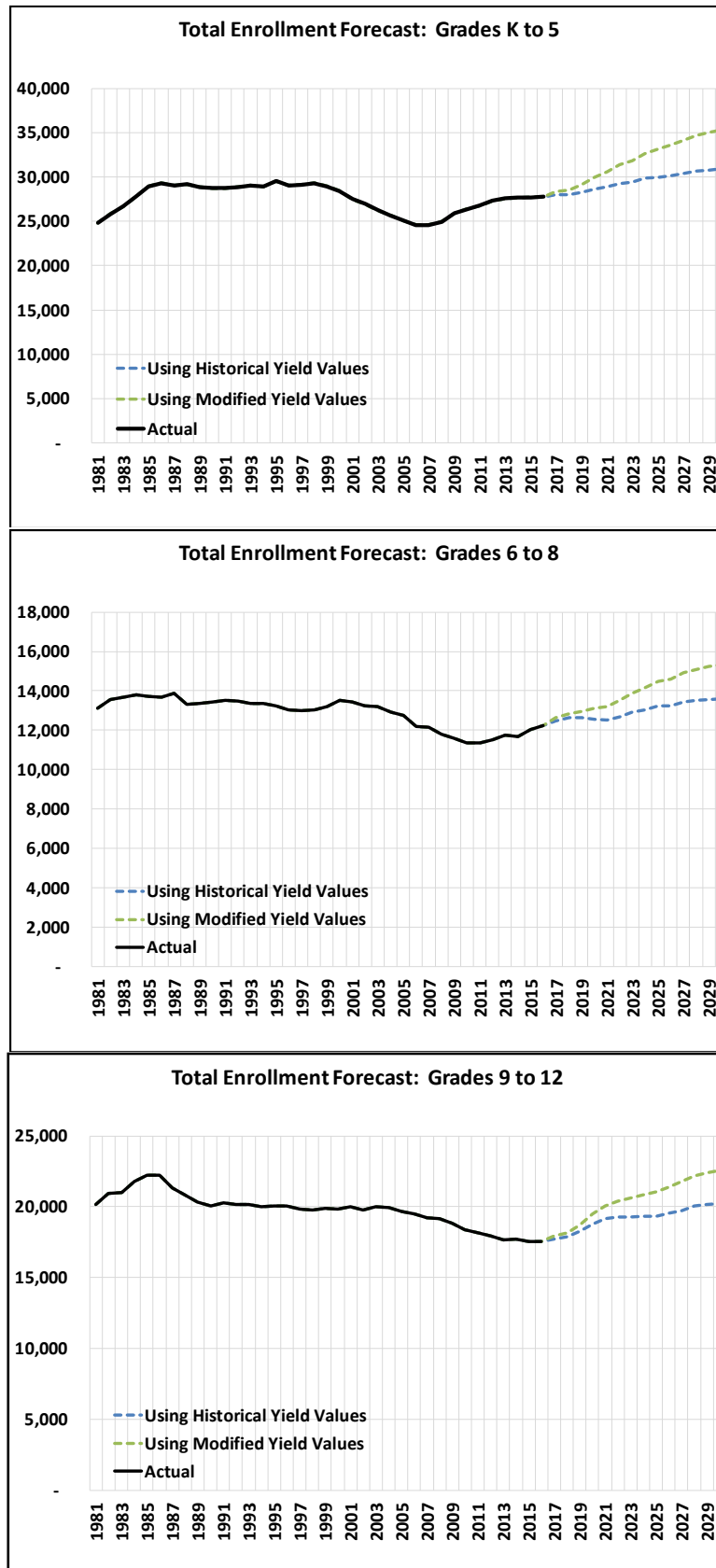- Using Modified Yield Values
- Actual

Key Findings

In the body of this report, we discuss each of these important Key Findings:

Findings regarding enrollment forecasts

Elementary enrollments are expected to increase in the foreseeable future. By 2030, there will be between 3,000 and 8,000 more students than there were in fall 2016.

Middle school enrollments are expected to increase throughout the projection period, by between 1,400 and 3,000 students than there were in fall 2016.

High school enrollments are expected to increase. By 2030, enrollments are expected to increase by between 3,000 and 5,000 students than there were in fall 2016.

Much of the enrollment increase will result from new housing development. However, some of the high school increases and a modest amount of the middle school increases are from changes in enrollments from existing housing, as a wave of smaller-sized cohorts eventually graduate and are replaced by larger cohorts.

Findings regarding the number of SFUSD students likely to live in new housing

New developments will house at least 7,000 additional SFUSD students, and the total could approach 16,000.

As more information becomes available about the characteristics of the future housing, student yield assumptions should be adjusted, and enrollment forecasts revised.

Findings regarding student yields from existing housing

In the short run, we expect elementary enrollments from existing housing to stabilize, middle school enrollments to increase modestly, and high school enrollments to increase substantially.

Findings regarding the number of SFUSD students likely to live in specific large new housing developments

By project completion, expect between 1,000 and 2,500 students in Treasure/Yerba Buena Islands (occupancy expected to start in 2022). The current development plans do not include a school site.

By 2030, expect between 900 and 1,700 students in Hunters Point Shipyard.

By 2040, expect between 1,200 and 2,200 students in Candlestick Point (new occupancy expected to start in 2018)

By 2040, expect between 500 and 1,200 students in Parcmerced (occupancy expected to begin in 2018).

Currently, about 300 students live in Mission Bay. When all approved and currently projected new housing is completed, we expect between 750 and 1,100 students living in Mission Bay.

Findings regarding grade progressions

Key Finding: More elementary and middle school students leave the District schools than enter each year. The 5>6 grade progression is particularly negative, and consistently so. The elementary and middle school grade progressions have been fairly stable over the 35 years for which we have data.

Key Finding: High school grade progressions changed a lot since 2010: instead of a net loss of students, there has been a net gain. The positive grade progressions may result from changes in the number of students staying in high school longer.

Findings regarding births and kindergarten enrollments

Between 1981 and 2016, kindergarten enrollment has ranged between 4,000 and 5,200 students. This suggests it would be highly unusual for kindergarten enrollment from existing housing to exceed these levels without a major demographic shift in the City or a decline in private school enrollment rates.

Key Finding: The 2001 to 2008 kindergarten cohorts were abnormally small, which caused elementary enrollments to decline. In Fall 2016, these small cohorts were in eighth through twelfth grades. Elementary enrollments have increased. Eventually, middle and high school enrollments will rise, as well.

The number of births to White mothers has increased since 2000, while African American births have declined since 1990.

Between 2007 and 2014, the number of births was relatively stable. These births correspond to the 2012 through 2019 kindergarten cohorts. Without housing growth, this would cause elementary enrollments to stabilize.

The K/B ratio was anomalously high between 2008 and 2012. The ratio has returned to its historically normal level.

The number of births to San Francisco residents has been stable for many years, suggesting that elementary (followed by middle and high school) enrollments from existing housing will be stable, as well, during the foreseeable future.

We expect kindergarten enrollments from existing housing to be stable for the next several years.

Findings regarding private school enrollments

San Francisco's 25 percent private school enrollment rate is much higher than California's nine percent. High private school rates are not unusual for urban areas. Even during the Great Recession, San Francisco parents did not reduce their rate of sending children to private

schools. Although it may be unlikely, if private school enrollment rates were to fall, SFUSD enrollments could rise.

San Francisco residents are more likely to send their children to private elementary and middle schools than to private high schools. There are more ninth graders in the District's schools than there were eighth graders the year before, and part of this results from students transferring from private to public school.

During the Great Recession, it appears that San Francisco residents did not reduce their rate of sending children to private schools. The U.S. Census surveys show no downward trend in the percentage of children attending private schools after 2008, and neither do private schools located in San Francisco show enrollment declines.

Private school enrollments are important to consider because they represent a potential source of additional SFUSD students if parents decided to send their children to public schools. However, given the robustness of San Francisco's private school enrollments during the Great Recession, it seems unlikely that this pattern will change.

Middle and high school enrollments in San Francisco's private schools have increased during the last five years, while elementary enrollments have been stable.

Findings regarding students' race/ethnicity

In fall 2016, Asians comprised the largest ethnic group, with 34 percent of the student body, followed by Hispanics (29 percent), Whites (14 percent), African Americans (8 percent), Filipinos (five percent) and multiple races or unspecified (nine percent).

Key Finding: Since 2000, inconsistent reporting of SFUSD students' ethnicity makes historical comparisons less certain. Nonetheless, we know that the share of students of Hispanic and multiple race ancestry has increased while the share of African American students has declined. The share of non-Hispanic White students has varied over time and has increased in recent years.

Acknowledgments

Table of Contents

Chapter I: Total Enrollment Forecast: Combined Forecasts from Existing and Future Housing

Our forecasts of San Francisco enrollments indicate substantial enrollment increases, primarily from housing growth. Some of the future housing will be below-market-rate (BMR) units, which tend to provide more students than any other housing type. In addition to growth from students living in future housing, there is also enrollment change in existing housing. In existing housing, we expect increases in high school enrollments but only modest changes in elementary and middle school enrollments.

As indicated in Figure I-1, our forecasts of future public school enrollments are a combination of two forecasts: (1) students living in future housing; and (2) students living in existing housing. The forecast methodology is completely different for the two components, and Chapters II and III provide detailed discussions of each component. Appendix E provides a more detailed version of Figure I-1, as well as a diagram of SFUSD enrollment flows.

Figure I-1
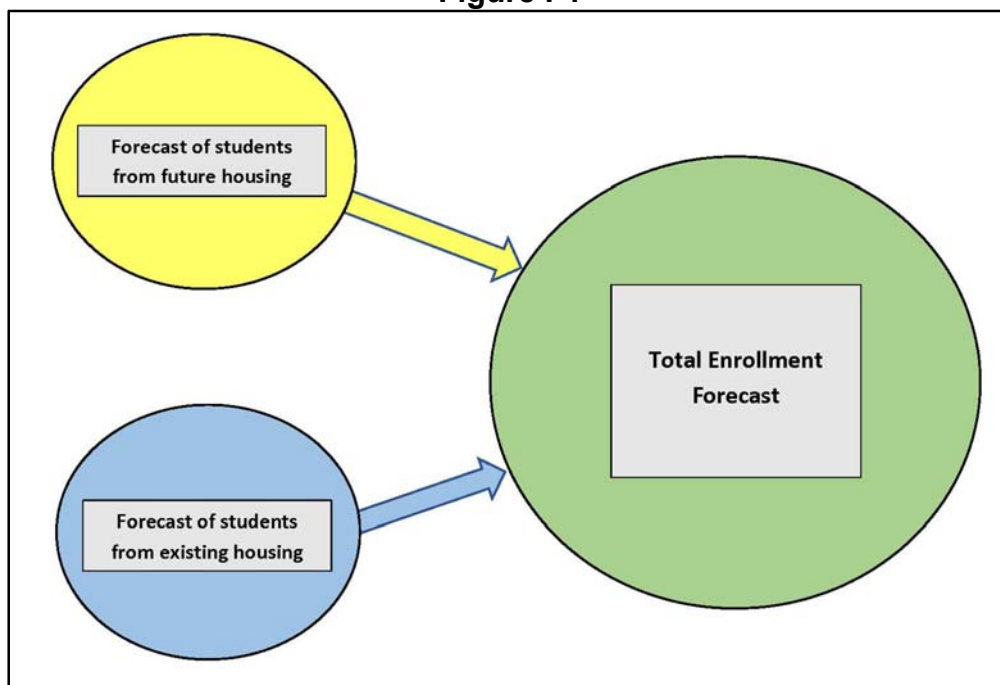
We provide two forecast scenarios for total (combined) enrollments (which are discussed in detail in Chapter II): These are:
1. Historical Yield Scenario: this forecast assumes that future student yields will resemble historical ones.
2. Modified Yield Scenario: this forecast assumes that more families with children will live in the future housing developments than now live in recently-built homes and/or that more families will send their children to public rather than private schools.

Table I-1 and Chart I-1 provide enrollment forecast under the two different scenarios, and Chart I-2 provides the forecasts by school level.

Elementary School Enrollment

Under both forecast scenarios, elementary enrollments increase steadily. By 2030, under the Historical Yield Scenario, enrollments increase by about 3,000 students. In the Modified Yield Scenario, the increase is 8,000 students. Both these forecasts are based on Fall 2016 enrollments (which totaled 27,757).

Middle School Enrollment

Under both forecast scenarios, middle school enrollments increase steadily. By 2030, in the Historical Yield Scenario, enrollments increase by about 1,400 students. They grow by about 3,000 students in the Modified Yield Scenario. Both these forecasts are based on Fall 2016 enrollments (which totaled 12,219).

High School Enrollment

Under both forecast scenarios, high school enrollments increase sharply. By 2030, in the Historical Yield Scenario, enrollments increase by nearly 3,000 students. They increase by about 5,000 students in the Modified Yield Scenario. Both these forecasts are based on Fall 2016 enrollments (which totaled 17,555).

Increases result from both housing growth in the major development areas and from larger birth cohorts reaching the high school grades.

Key Finding: Elementary enrollments are expected to increase in the foreseeable future. By 2030, there will be between 3,000 and 8,000 more students than there were in fall 2016.

Key Finding: Middle school enrollments are expected to increase throughout the projection period, by between 1,400 and 3,000 students, compared with 12,219 in fall 2016.

Key Finding: High school enrollments are expected to increase. By 2030, enrollments are expected to increase by between 3,000 and 5,000 students, compared with 2016.

Key Finding: Much of the enrollment increase will result from new housing development. However, some of the high school increases and a modest amount of the middle school increases are from changes in enrollments from existing housing, as a wave of smaller-sized cohorts eventually graduate and are replaced by larger cohorts.

Table I-1

Total Forecast - Students from All Types of Housing: Historical Yield Scenario Forecast)

Year	TK	K	1	2	3	4	5	6	7	8	9	10	11	12	Total	K to 5	6 to 8	9 to 12
2016	415	4,723	4,597	4,493	4,482	4,551	4,496	4,115	4,115	3,989	4,238	4,420	4,515	4,382	57,531	27,757	12,219	17,555
2017	428	4,867	4,660	4,559	4,479	4,437	4,542	4,199	4,139	4,156	4,455	4,404	4,288	4,598	58,212	27,972	12,495	17,745
2018	419	4,756	4,792	4,614	4,537	4,429	4,422	4,238	4,218	4,176	4,636	4,622	4,266	4,363	58,489	27,969	12,632	17,887
2019	435	4,938	4,677	4,740	4,589	4,482	4,409	4,125	4,255	4,252	4,655	4,807	4,473	4,338	59,174	28,269	12,632	18,273
2020	431	4,903	4,866	4,637	4,725	4,543	4,471	4,125	4,152	4,297	4,752	4,837	4,659	4,556	59,954	28,575	12,575	18,803
2021	439	4,990	4,828	4,823	4,621	4,675	4,529	4,185	4,151	4,193	4,802	4,934	4,686	4,743	60,600	28,904	12,529	19,166
2022	443	5,026	4,928	4,801	4,820	4,589	4,673	4,257	4,225	4,204	4,703	5,003	4,792	4,783	61,247	29,280	12,686	19,280
2023	446	5,070	4,941	4,882	4,782	4,770	4,570	4,381	4,283	4,265	4,704	4,885	4,841	4,878	61,698	29,462	12,929	19,308
2024	452	5,134	4,997	4,909	4,875	4,746	4,760	4,302	4,420	4,334	4,787	4,900	4,738	4,938	62,292	29,874	13,055	19,362
2025	456	5,178	5,035	4,945	4,884	4,821	4,719	4,467	4,327	4,458	4,849	4,968	4,736	4,820	62,663	30,039	13,251	19,373
2026	459	5,213	5,066	4,974	4,911	4,821	4,785	4,425	4,486	4,356	4,980	5,026	4,793	4,810	63,107	30,230	13,267	19,610
2027	464	5,266	5,112	5,017	4,951	4,860	4,796	4,501	4,455	4,526	4,881	5,173	4,858	4,878	63,739	30,467	13,481	19,790
2028	468	5,319	5,159	5,061	4,992	4,899	4,831	4,513	4,530	4,493	5,071	5,070	4,997	4,942	64,347	30,730	13,536	20,081
2029	471	5,345	5,182	5,083	5,013	4,918	4,849	4,531	4,524	4,550	5,018	5,246	4,878	5,066	64,675	30,862	13,605	20,208
2030	473	5,372	5,205	5,104	5,033	4,938	4,866	4,549	4,542	4,544	5,080	5,189	5,046	4,944	64,885	30,992	13,634	20,259

Total Forecast - Students from All Types of Housing: Modified Yield Scenario Forecast

Year	TK	K	1	2	3	4	5	6	7	8	9	10	11	12	Total	K to 5	6 to 8	9 to 12
2016	415	4,723	4,597	4,493	4,482	4,551	4,496	4,115	4,115	3,989	4,238	4,420	4,515	4,382	57,531	27,757	12,219	17,555
2017	434	4,938	4,722	4,617	4,534	4,489	4,589	4,246	4,185	4,200	4,505	4,454	4,332	4,641	58,887	28,323	12,632	17,932
2018	428	4,863	4,886	4,701	4,620	4,507	4,493	4,309	4,288	4,243	4,712	4,698	4,332	4,428	59,509	28,498	12,840	18,170
2019	450	5,110	4,828	4,881	4,721	4,608	4,524	4,240	4,368	4,359	4,777	4,929	4,580	4,441	60,815	29,121	12,967	18,727
2020	455	5,175	5,104	4,860	4,934	4,741	4,652	4,307	4,329	4,466	4,944	5,029	4,828	4,719	62,543	29,920	13,103	19,519
2021	469	5,335	5,130	5,106	4,887	4,928	4,759	4,416	4,377	4,409	5,047	5,179	4,900	4,951	63,894	30,613	13,202	20,078
2022	480	5,451	5,301	5,151	5,147	4,901	4,956	4,541	4,504	4,470	5,005	5,305	5,057	5,039	65,308	31,387	13,515	20,405
2023	489	5,557	5,367	5,282	5,157	5,126	4,895	4,706	4,602	4,569	5,050	5,231	5,144	5,171	66,346	31,874	13,877	20,596
2024	501	5,695	5,488	5,370	5,307	5,156	5,134	4,677	4,787	4,684	5,185	5,298	5,087	5,276	67,645	32,652	14,147	20,845
2025	512	5,814	5,593	5,468	5,374	5,287	5,143	4,892	4,743	4,855	5,300	5,419	5,131	5,202	68,733	33,192	14,489	21,052
2026	520	5,906	5,674	5,544	5,446	5,329	5,247	4,889	4,940	4,790	5,472	5,518	5,225	5,227	69,729	33,667	14,619	21,443
2027	530	6,021	5,774	5,638	5,534	5,413	5,299	5,006	4,950	4,998	5,417	5,709	5,328	5,333	70,951	34,210	14,953	21,787
2028	539	6,127	5,867	5,725	5,615	5,491	5,369	5,053	5,059	4,998	5,644	5,643	5,500	5,429	72,061	34,734	15,110	22,217
2029	545	6,191	5,924	5,778	5,665	5,538	5,412	5,096	5,078	5,079	5,618	5,846	5,404	5,576	72,751	35,054	15,253	22,444
2030	551	6,257	5,981	5,832	5,716	5,586	5,456	5,140	5,121	5,098	5,709	5,818	5,597	5,477	73,339	35,380	15,358	22,601

Chart I-1

Total Enrollment Forecast: Grades K to 12

Legend:
- - - - Using Historical Yield Values
- - - - Using Modified Yield Values
—— Actual

Chart I-2

Total Enrollment Forecast: Grades K to 5

Legend:
- Using Historical Yield Values
- Using Modified Yield Values
- Actual

Total Enrollment Forecast: Grades 6 to 8

Legend:
- Using Historical Yield Values
- Using Modified Yield Values
- Actual

Total Enrollment Forecast: Grades 9 to 12

Legend:
- Using Historical Yield Values
- Using Modified Yield Values
- Actual

Chapter II: The Enrollment Impact of San Francisco's Future Housing

Nearly 90,000 new housing units are planned for San Francisco over the next 25 years. Many areas of the city will have housing growth. We have forecasted enrollments from all 90,000 units. In this chapter, we provide detailed discussions of five neighborhoods that are being transformed by new development: Mission Bay, Candlestick Point, Hunters Point Shipyard/San Francisco Shipyard, Treasure/Yerba Buena Islands, and Parcmerced.[2]

How many students will live in the new neighborhoods, as well as in the new housing to be built throughout the City? As we explain below, forecasting enrollments from the new housing presents several challenges, but it is clear that substantial numbers of children will live in the new housing, especially in the new neighborhoods.

Our best estimate at this point is that eventually the new developments will house at least 7,000 additional SFUSD students, and the total could approach 16,000. The two different estimates result from two different enrollment scenarios or simulations. The first scenario assumes low student yields from the new housing, and the second assumes average student yields. The methodology for estimating enrollments for each scenario will be discussed below.

The results of the forecast scenarios are provided in:

- Chart II-1, which shows the time span during which these additional enrollments are expected to occur.

- Tables II-1a and II-1b, which shows the estimated number of students in each housing area – Table II-1a is sorted by number of students and Table II-1b is sorted by neighborhood.[3]

- Map II-1, which shows the number of students expected from future housing and from existing housing by neighborhood.

- Tables II-2 and II-3, which show the timing of the enrollment forecast for each development, under two different scenarios.

Key Finding: New developments will house at least 7,000 additional SFUSD students, and the total could approach 16,000.

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[2] There are several other neighborhoods being transformed, which are included in our forecast, but not discussed in detail in the text, such as: Pier 70, Mission Rock, Transbay, and others.

[3] "Off-site BMR units" are listed in the tables and are BMR units required by various developments, but developers provided a fee to have these units elsewhere, and not included in their projects.

Chart II-1

Projected Enrollments from Major New Housing

Bar chart showing "Number of Students Projected from New Housing" (y-axis, 0 to 16,000) by year (x-axis, 2017 to 2030), comparing Historical Yield Scenario (red) and Modified Yield Scenario (blue).
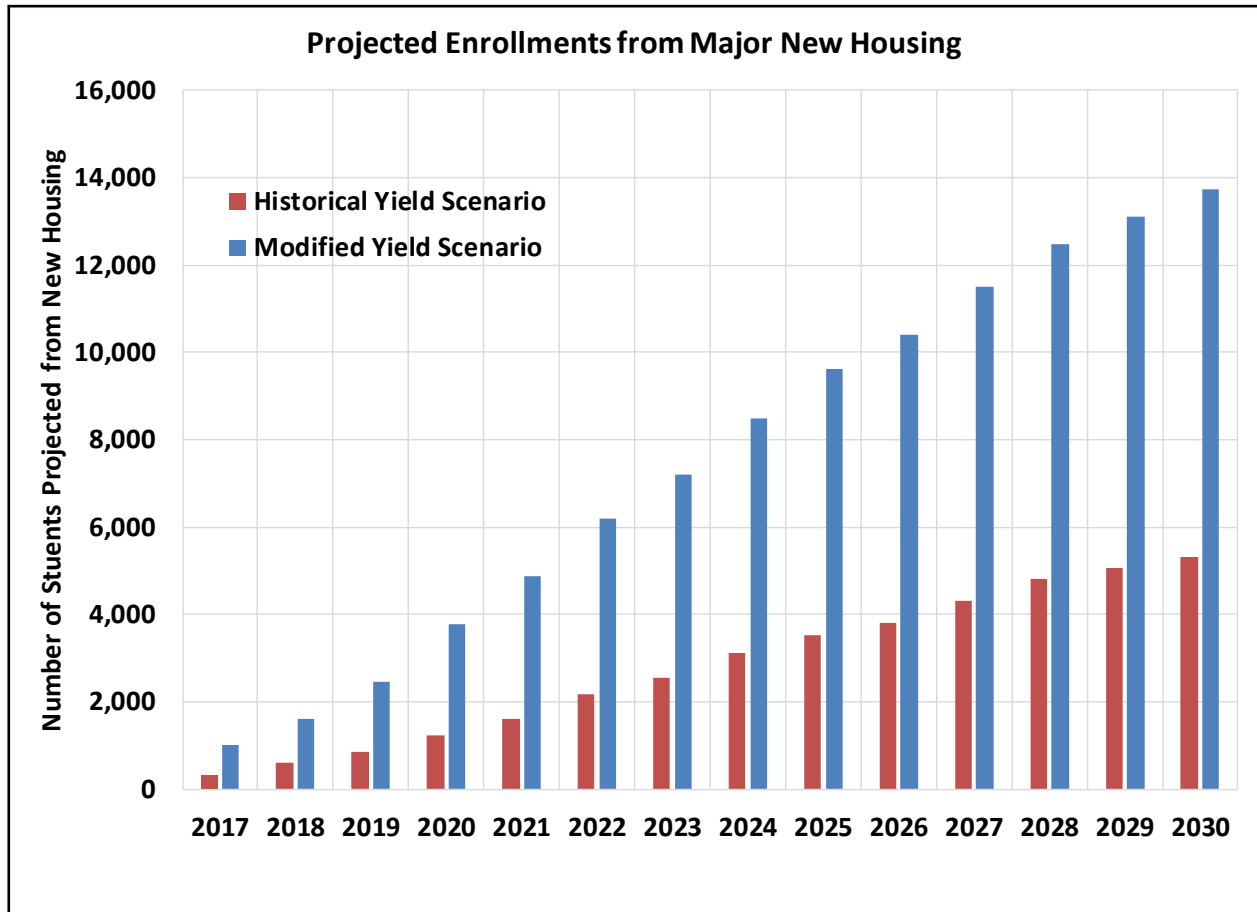
Table II-1a: Sorted by Student Counts in Modified Yield Scenario
Housing and Student Forecast Through 2040

	All Units	Subsidized Units	Enrollments in Historical Yield Simulation	Enrollments in Modified Yield Simulation	Neighborhood
Treasure Island and Yerba Buena Is	8,000	2,000	1,102	2,374	TI/YBI
Candlestick	7,219	2,255	996	1,823	Bayview
Central SOMA	11,715	2,343	211	1,523	South of Market
Hunters Point Shipyard, 1&2	4,768	1,168	713	1,279	Bayview
Eastern Neighborhoods	9,000	1,350	141	1,106	South of Market
Rest of the City	10,180	584	1,106	1,106	
Parcmerced	5,679	602	250	878	Lakeshore
Transbay	4,919	4,240	436	764	Financial District
Mission Bay (future units only)	1,738	865	441	736	South of Market
Market and Octavia	5,646	791	154	644	Mission
Visitacion Valley/Schlage Lock	1,700	311	205	470	Visitacion Valley
Balboa Park Station	1,780	445	106	410	Outer Mission
Mission Rock	1,327	531	207	358	South of Market
Executive Park	1,600	192	189	358	Bayview
Western SOMA	2,900	580	47	339	South of Market
The Hub	2,626	414	325	325	
Pier 70 Area	1,600	480	35	232	Potrero Hill
Other off-site BMR	185	185	93	148	
5M Project	688	241	17	105	South of Market
Rincon Hill	2,685	362	5	52	South of Market
Transit Center District	3,400	3,400	13	37	Financial District
HOPE SF Projects - excluding replacement units					
Potrero	998	307	267	328	Potrero Hill
Sunnydale	952	307	218	283	Visitacion Valley
Hunters View	740	409	52	69	Bayview
Total	89,355	23,340	7,327	15,746	

Table II-1b: Sorted by Neighborhood

Housing and Student Forecast Through 2040

	All Units	Subsidized Units	Enrollments in Historical Yield Simulation	Enrollments in Modified Yield Simulation	Neighborhood
Candlestick	7,219	2,255	996	1,823	Bayview
Hunters Point Shipyard, 1&2	4,768	1,168	713	1,279	Bayview
Executive Park	1,600	192	189	358	Bayview
Transbay	4,919	4,240	436	764	Financial District
Transit Center District	3,400	3,400	13	37	Financial District
Parcmerced	5,679	602	250	878	Lakeshore
Market and Octavia	5,646	791	154	644	Mission
Balboa Park Station	1,780	445	106	410	Outer Mission
Pier 70 Area	1,600	480	35	232	Potrero Hill
Mission Bay (future units only)	1,738	865	441	736	South of Market
Central SOMA	11,715	2,343	211	1,523	South of Market
Eastern Neighborhoods	9,000	1,350	141	1,106	South of Market
Mission Rock	1,327	531	207	358	South of Market
Western SOMA	2,900	580	47	339	South of Market
Rincon Hill	2,685	362	5	52	South of Market
5M Project	688	241	17	105	South of Market
Treasure Island and Yerba Buena Is	8,000	2,000	1,102	2,374	TI/YBI
Visitacion Valley/Schlage Lock	1,700	311	205	470	Visitacion Valley
The Hub	2,626	414	325	325	
Rest of the City	10,180	584	1,106	1,106	
Other off-site BMR	185	185	93	148	
HOPE SF Projects - excluding replacement units					
Hunters View	740	409	52	69	Bayview
Sunnydale	952	307	218	283	Visitacion Valley
Potrero	998	307	267	328	Potrero Hill
Total	89,355	23,340	7,327	15,746	

Map II-1: Enrollment Forecast from Future Housing, With 2016 Enrollments

SFUSD K-12 Enrollments by Planning Neighborhood
Actual 2016 Enrollments,
Additional students from new housing under Low Yield scenario,
Additional students from new housing under Average Yield scenario

Map Layers
Planning Neighborhood
Streets dl 5-18-15

K-12 Enrollments by Planning Neighborhood

7,500
3,792
83

Actual 2016 Enrollments
Addt'l students from new housing under Low Yield
Addt'l students from new housing under Average Yield

0   .5   1   1.5
Miles

Lapkoff & Gobalet Demographic Research, Inc. 11/30/17
www.Demographers.com

Table II-2

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Students from Future Housing Under Historical Yield Scenario														
Park Merced		30	59	59	94	94	113	113	113	143	143	143	165	165
Treasure and YB Islands		0	0	0	0	93	111	318	371	389	601	893	911	966
Hunters Point Shipyard, Phase 1&2	17	40	40	139	185	245	305	366	413	461	509	577	645	713
Candlestick Point		41	82	122	163	204	245	315	386	456	558	621	684	747
Mission Bay	100	175	204	275	275	307	379	436	441	441	441	441	441	441
Visitacion Valley/Schlage Lock	0	0	0	0	29	59	88	117	147	176	205	205	205	205
Executive Park	70	70	70	94	118	141	165	189	189	189	189	189	189	189
Balboa Park Station	0	0	0	0	2	2	22	43	64	85	106	106	106	106
Central SOMA	0	0	0	14	28	42	56	70	84	98	112	127	141	155
Eastern Neighborhoods	18	26	36	71	95	106	110	114	131	137	141	141	141	141
5M Project	0	0	0	0	0	0	0	0	6	11	17	17	17	17
Pier 70 Area	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Western SOMA	9	10	10	13	20	22	25	29	32	36	40	43	47	47
Market and Octavia	1	1	6	12	97	114	119	124	129	134	139	144	149	154
Mission Rock	0	0	0	0	0	41	83	124	165	207	207	207	207	207
Rincon Hill	0	0	0	2	2	2	4	4	5	5	5	5	5	5
Transbay Zone 1	39	99	156	201	201	396	396	396	436	436	436	436	436	436
Transbay Zone 2	7	7	7	7	13	13	13	13	13	13	13	13	13	13
Sunnydale HOPE SF	0	0	13	13	25	25	43	48	66	72	89	95	113	118
Potrero HOPE SF	12	12	24	24	46	46	59	89	101	101	113	134	146	146
Hunters View	26	52	52	52	52	52	52	52	52	52	52	52	52	52
The Hub	0	2	9	28	46	68	91	113	135	157	179	201	223	245
Rest of City	35	40	74	91	102	111	116	121	125	125	125	125	125	125
Off-site BMR	0	0	0	6	12	19	25	31	37	43	49	56	62	68
Total Students - sum	335	605	841	1,222	1,606	2,202	2,619	3,225	3,642	3,968	4,470	4,970	5,222	5,472

Table II-3

Students from Future Housing Under Modified Yield Scenario														
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Park Merced	0	94	197	197	323	323	388	388	388	497	497	497	575	575
Treasure and YB Islands				0	0	209	296	693	836	923	1,326	1,860	1,947	2,094
Hunters Point Shipyard, Phase 1&2	32	74	74	269	347	451	556	662	747	832	918	1,038	1,159	1,279
Candlestick Point	0	71	141	212	283	354	424	552	680	807	993	1,113	1,232	1,351
Mission Bay	160	292	338	452	452	502	618	710	736	736	736	736	736	736
Visitacion Valley/Schlage Lock	0	0	0	0	67	134	202	269	336	403	470	470	470	470
Executive Park	132	132	132	178	223	268	313	358	358	358	358	358	358	358
Balboa Park Station	3	3	4	5	12	12	92	171	251	331	410	410	410	410
Central SOMA	0	0	0	102	203	305	406	508	609	711	812	914	1,015	1,117
Eastern Neighborhoods	163	220	300	568	751	835	859	896	1,057	1,087	1,106	1,106	1,106	1,106
5M Project	0	0	0	0	0	0	0	0	35	70	105	105	105	105
Pier 70 Area	0	0	0	0	0	0	0	0	0	0	0	0	0	77
Western SOMA	74	83	85	109	170	183	205	227	250	272	295	317	339	339
Market and Octavia	10	10	60	113	279	337	375	414	452	490	529	567	605	644
Mission Rock	0	0	0	0	0	72	143	215	286	358	358	358	358	358
Rincon Hill	0	0	0	23	23	23	38	38	52	52	52	52	52	52
Transbay Zone 1	60	156	273	356	356	700	700	700	764	764	764	764	764	764
Transbay Zone 2	19	19	19	19	37	37	37	37	37	37	37	37	37	37
Sunnydale HOPE SF	0	0	13	13	25	25	48	59	82	93	116	127	150	161
Potrero HOPE SF	12	12	24	24	56	56	69	129	141	141	153	195	207	207
Hunters View	34	69	69	69	69	69	69	69	69	69	69	69	69	69
The Hub	0	27	103	275	275	325	325	325	325	325	325	325	325	325
Rest of City	303	353	635	798	898	974	1,020	1,061	1,106	1,106	1,106	1,106	1,106	1,106
Off-site BMR	0	0	0	10	20	30	40	49	59	69	79	89	99	109
Total Students - sum	1,003	1,616	2,467	3,790	4,869	6,224	7,223	8,529	9,655	10,531	11,614	12,613	13,225	13,849

Methodology

The number of students from the new developments is predicted by simply multiplying the number of housing units by the "student yield."

New Students = (# Units) * (Student Yield)

Student yields, sometimes called student generation rates, are a measure of the average number of public school students per housing unit. For example, if there were 10 students in 100 housing units, the student yield would be .10 (10/100).

With 70,000 new units, if the overall yield were .10, we would forecast 7,000 additional SFUSD students. If the yield were .20, the expected number of students would be 14,000. Obviously, the choice of student yield assumptions has a big effect on enrollment forecasts.

Because student yields vary by the characteristics of housing, we assume different student yields for different types of units. Factors that affect student yields include:
1. the size of the unit;
2. the price of the housing;
3. whether the housing is rented or owner-occupied;
4. the type of housing (high-rise, townhouse, garden-style);
5. whether the units are below-market-rate;
6. whether affordable units are in stand alone buildings (all units are below-market-rate) or in Inclusionary buildings (only 10-20 percent of housing is below market rate); and
7. the nature of the neighborhood.

Challenges in Making Accurate Forecasts

There are three major challenges, or sources of uncertainty, associated with choosing yields to use in the enrollment forecast:

1. In many cases, the specific characteristics of future housing have not been decided, so that important variables that affect student yields (like those listed above) are not yet known;

2. We must make assumptions about future yields based on measurements of yields from existing units that are somewhat different from those in the planned developments; and

3. Historical yields may not resemble yields from future housing even when future housing will be comparable to older housing, because historical patterns might shift. A larger share of young families may stay in San Francisco rather than move to suburban areas once they have school-aged children.

The first source of uncertainty is associated with the fact that plans for many of the new neighborhoods are not final. We must make student yield assumptions without specific information about:

a. The share of below-market-rate units that will be non-family (designed for seniors, the homeless, and the disabled); these units generate few students.
b. The mix of rental and owned units in the new below-market-rate housing; typically, owned units generate fewer students than rentals.
c. The characteristics of market-rate units, such as cost, number of bedrooms, and "family-friendly" quality. For example, towers (high-rises) generate fewer students than mid-rise developments or townhouses.
d. Whether high-priced housing units will remain high-priced in the future.

As time passes, more information will become available, and student yield assumptions should be reviewed and adjusted accordingly.

Key Finding: As more information becomes available about the characteristics of the future housing, student yield assumptions should be adjusted, and enrollment forecasts revised.

San Francisco's Student Yields from Recently-Built Housing

Because forecasting enrollments from new housing depends on an assumption about student yields in existing housing, we summarize student yield information from Appendix B, which provides data on student yields in existing San Francisco housing. Important findings from that analysis are:

- Public housing units have the highest student yields (.63).

- The yield in new housing that is stand alone affordable housing (all units in the development are below-market-rate) averages .43.

- Stand alone, affordable, owned condominiums have lower yields than stand alone, affordable, rental units.

- There are very few students in the large apartment and condominium complexes, even when the buildings contain some below-market-rate (BMR) units (yields are less than .05.).

- *Currently, about 20 percent of the public or below-market-rate housing units* are designed for populations other than families with children;

- We found one small housing development in Visitacion Valley whose yields may be suggestive of rates for market-rate units in the future mixed-income neighborhoods in the southeast; that development has a yield of .22 in 2016-17.

Housing Description and Student Yield Assumptions Used in the Five Major Neighborhoods

Treasure and Yerba Buena Islands (TI/YBI)

The redevelopment planned for Treasure and Yerba Buena Islands will create an entirely new San Francisco neighborhood. Eight thousand housing units are expected, of which 25 percent are intended for households with incomes that qualify them for below-market-rate housing. In addition to the enormous residential expansion, office and retail units are anticipated, as well as green space and parks. In short, an attractive mixed-income neighborhood that would accommodate a wide range of households is envisioned. Some housing units will not be attractive to families (lofts and small condominiums or apartments). But some units will be large, with amenities that should attract families to the area. In addition, the below-market-rate housing planned for the area is likely to contain many families.

It is difficult to know whether many higher-income families will be attracted to TI/YBI and, if so, whether they will send their children to public schools. If the neighborhood is perceived as safe, if a school is located there, and if the reputation of the school is good, we would expect families of all income levels to be attracted to the area and to attend a SFUSD school in the community.

We do not have any historical basis for assuming that market-rate units will attract a large number of households with children enrolled in SFUSD schools. Nonetheless, SFUSD needs to plan for various possible enrollment scenarios. In Table II-4 and Chart II-2, we provide two simulations for TI/YBI based on different student yield assumptions. One simulation assumes yields in the market-rate units based on current rates, while the second simulation assumes yields will be higher than currently in market-rate units. In the second simulation, we also assumed a higher yield for the below-market-rate units.

These simulations suggest that TI/YBI enrollments may range between 1,100 and 2,400 K-12 students at buildout. In recent years, between 300 and 400 students have lived on these islands, so the simulated net enrollment effect of the development will be between 800 and 2,050 additional SFUSD students.

The timing of development is uncertain. The project has been stalled indefinitely due to lack of funding. For simulation purposes, we have assumed that the development will be built between 2022 and 2031. Note that the timing could be further delayed.

It is our understanding that there is no school site on the island to accommodate the large number of students that would be living in the area.

Key Finding: By project completion, expect between 1,000 and 2,500 students in Treasure/Yerba Buena Islands (occupancy expected to start in 2022). The current development plans do not include a school site.

Table II-4

K-12 Enrollment Forecast for Treasure/Yerba Buena Islands at Buildout, Includes Existing Students

| | # Units | Possible Yields | | Possible Enrollments | |
		Historical Yield	Modified Yield	Using Historical Yield	Using Modified Yield
Market Rate					
Townhouses	400	0.10	0.35	40	140
Low rise	2,120	0.05	0.25	106	530
Mid rise	493	0.01	0.10	5	49
Towers	2,987	0.01	0.05	30	149
Subsidized					
Stand Alone	1,684	0.50	0.80	842	1,347
Inclusionary	316	0.25	0.50	79	158
Total	8,000			1,102	2,374

Source: Number of units by type of unit from sftreasureisland.org, page 38 of the Land Use and Development Program application document; assumes 5% of (non-Stand Alone) units will be inclusionary.

Chart II-2

K-12 Student Forecast for Treasure Island/Yerba Buena Island, Including Existing Students
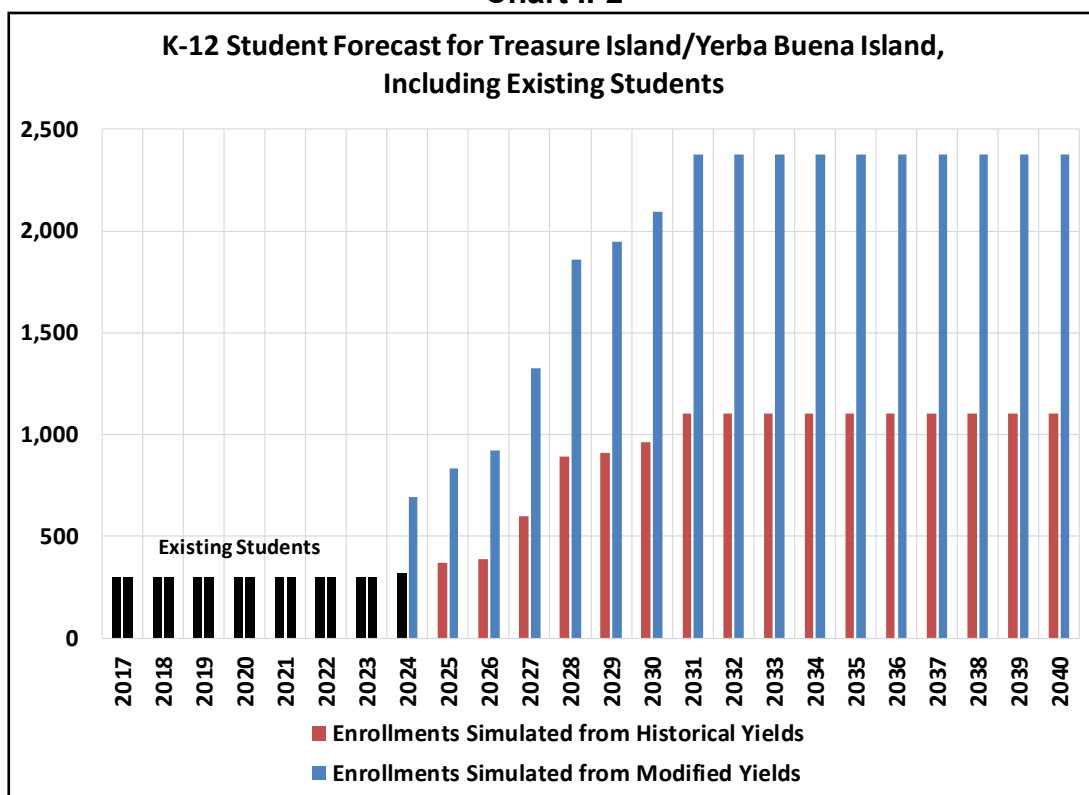
Hunters Point Shipyard (HPS)

The Hunters Point Shipyard (San Francisco Shipyard) development will be built in two major phases and occupancy is expected to occur by 2030.

Phase 1 is under construction and will contain 1,341 units, of which 315 will be below-market-rate. The market-rate housing in this phase is expected to be occupied by 2018, and the construction of below-market-rate housing is planned for 2020-21.

Phase 2 will contain 3,454 units, to be occupied between 2022 and 2030. We lack information about the types of market-rate units that will be built in Phase 2, and until more details are available, we have assumed there will be equal numbers of townhouses, low-and-mid-rise units, and towers. When more details are available, the forecasts should be revised. Note that if there were more townhouses or low- to mid-rise developments than currently assumed, enrollments would be higher than in our simulations. See Table II-5 and Chart II-3 for HPS forecast simulations using the same yield assumptions as those for TI/YBI above.

Key Finding: By 2030, expect between 900 and 1,700 students in Hunters Point Shipyard.

Table II-5

K-12 Enrollment Forecast Simulation for HPS, Phases 1 and 2					
		Possible Yields		Possible Enrollments	
	# Units	Historical Yield	Modified Yield	Using Historical Yield	Using Modified Yield
Phase 1					
Market Rate	1,007				
THs	381	0.20	0.35	76	133
Low-to-Mid-Rise	416	0.05	0.10	21	42
Towers	210	0.01	0.10	2	21
Workforce BMR (120-160% AMI)	0	0.25	0.50	0	0
Inclusionary BMR (80-120% AMI)	112	0.25	0.50	28	56
OCII Stand-Alone Affordable (60% AMI)	130	0.50	0.80	65	104
Subtotal	1,249			192	356
Phase 2					
Market Rate	2,601				
THs*	867	0.20	0.35	173	303
Low-to-Mid-Rise*	867	0.05	0.10	43	87
Towers*	867	0.01	0.10	9	87
Workforce BMR (120-160% AMI)	205	0.25	0.50	51	103
Inclusionary BMR (80-120% AMI)	293	0.25	0.50	73	147
OCII Stand-Alone Affordable (60% AMI)	355	0.50	0.80	178	284
Total	3,454			527	1,010
All Phases (excluding Alice Griffith)	**4,703**			**720**	**1,366**
All Phases (including Alice Griffith)	**4,959**			**920**	**1,666**

*Market -rate housing types for Phase 2 are not available, and we assumed that townhouses, low-to-mid-rise units, and towers would each comprise one-third of the future housing.

Chart II-3

K-12 Student Forecast for HPS Phase 1 & 2

■ Enrollments Simulated from Historical Yields

■ Enrollments Simulated from Modified Yields
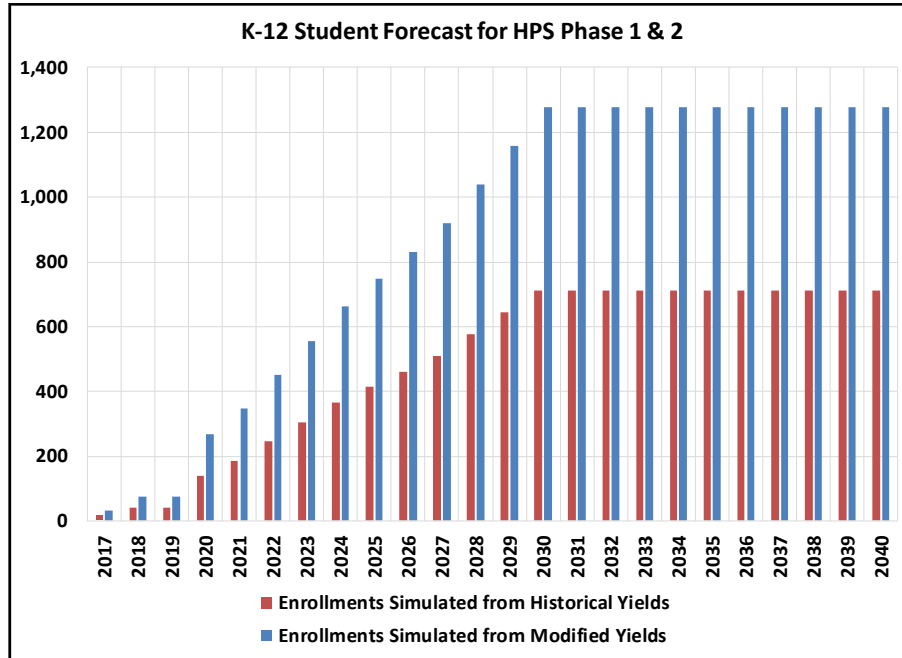
Candlestick Point

HPS and Candlestick Point are both ambitious projects that will result in distinct new San Francisco neighborhoods that are close to one another and are the result of a single redevelopment plan. Yet it should be noted that the two neighborhoods will be somewhat different. Candlestick Point is intended to have higher-density housing than HPS. Twelve towers are permitted in Candlestick Point, but HPS could have only two. Candlestick Point will have a large shopping center, while HPS will have large playing fields.

In three major phases, 7,218 housing units will be built in Candlestick Point, of which 65 percent will be market rate units. We have assumed 70 percent of the units will be in towers (12 towers are permitted in this area).

Four types of below-market-rate units are planned: 687 workforce units, 534 inclusionary units, 1,033 stand-alone affordable units[4], and the 267 Alice Griffith replacement units.

The new Alice Griffith public housing development is now built, and residents from the old building are moving into the new units. The old building will be torn down when all residents have moved. In each recent year, Alice Griffith has housed between 204 and 278 SFUSD students. For now, we assume that the rebuilt Alice Griffith will contain similar numbers of students. The Alice Griffith replacement units will be combined with other housing, some market-rate and some other below-market-rate units. The public housing, therefore, will be in a mixed-income neighborhood.

There are likely to be between 1,000 and 2,000 SFUSD K-12 students in the neighborhood, including Alice Griffith residents. See Table II-6 and Chart II-4.

Key Finding: By 2040, expect between 1,200 and 2,200 students in Candlestick Point (new occupancy expected to start in 2018).

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[4] Stand alone affordable units are developments in which 100 percent of the units are below market rate.

Table II-6

K-12 Enrollment Forecast for Candlestick Point at Buildout, Includes Existing Students

	# Units	Possible Yields		Possible Enrollments	
		Historical Yield	Modified Yield	Using Historical Yield	Using Modified Yield
Market Rate	4,708				
Townhouses*	471	0.20	0.35	94	165
Condos*	942	0.05	0.20	47	188
Towers*	3,296	0.01	0.01	33	33
Workforce BMR (120-160% AMI)	687	0.25	0.50	172	344
Inclusionary BMR (80-120% AMI)	534	0.25	0.50	134	267
Alice Griffith Public Housing Replacement Units	256	Neutral impact		0	0
OCII Stand Alone Affordable (60% AMI)	1,033	0.50	0.80	517	826
Subtotal	7,218			996	1,823
Enrollments in Alice Griffith units				200	300
Total				1,196	2,123

Source: Affordable information from Sally Oerth, OCII.

* Market-rate housing types are not available, and we assumed that towers would comprise 70 percent, condos 20 percent, and townhouses 10 percent of the future housing.

Chart II-4

K-12 Student Forecast for Candlestick Point

Legend:
- Enrollments Simulated from Historical Yields
- Enrollments Simulated from Modified Yields
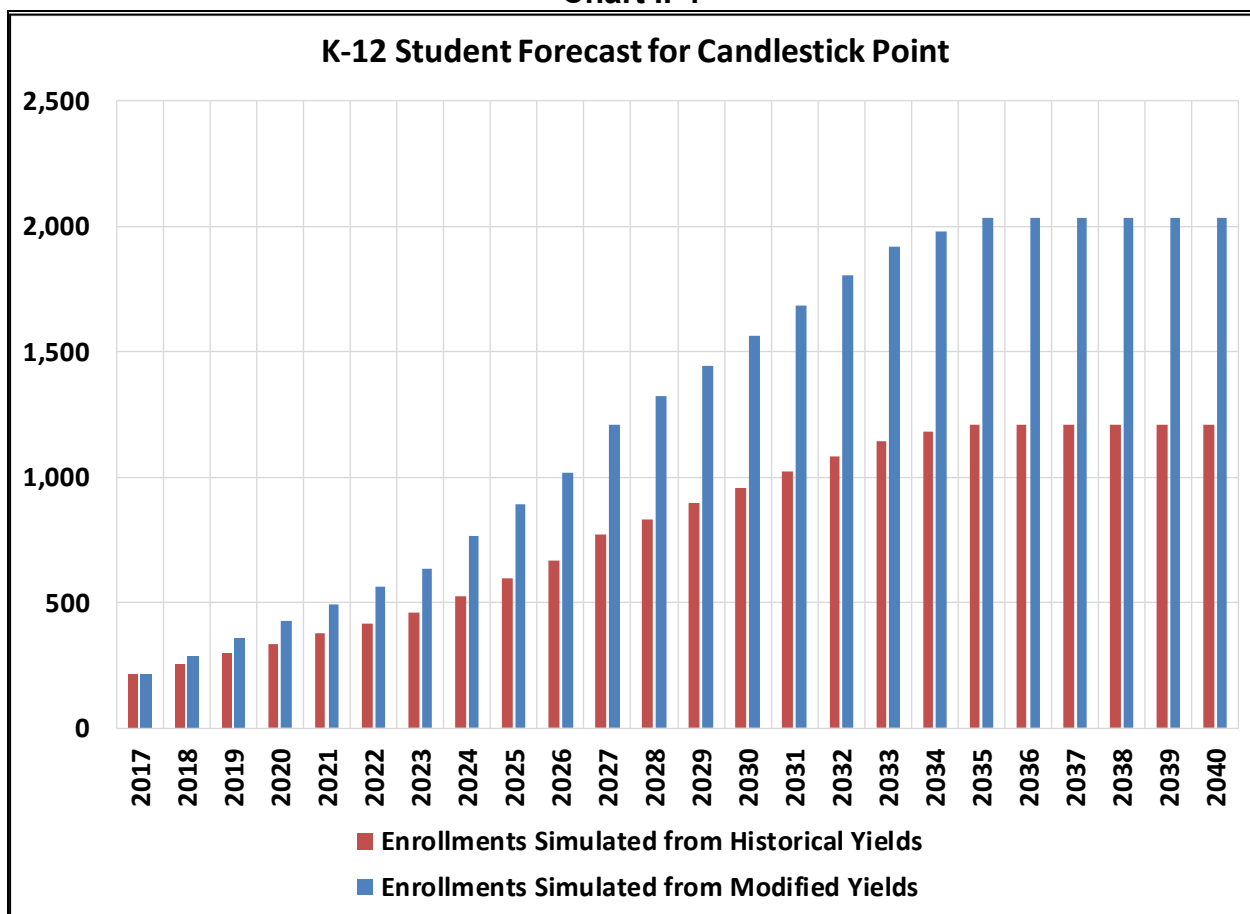
Parcmerced

The plan for Parcmerced's development is to create a new urban neighborhood. Currently, the area contains 3,221 rental housing units in towers and low-rise apartments, yielding about 300 SFUSD students. Under the redevelopment plan, the towers will remain, but the 1,538 low-rise apartments will be replaced. In addition to the replacement units, the development will contain 5,679 new units. Map II-2 shows the geographical distribution of the towers that will remain, collectively called "The Villas at Parcmerced." The 7,217 new low-rise units will be distributed throughout the other parts of the neighborhood.

The map also shows the location of the recently-built Summit 800 development. Summit 800 is one of the few new housing developments with SFUSD students (with a yield of .05 in its 182 single-family units in fall 2016).

New occupancies are expected to begin in 2018 and continue through 2040. The low-yield simulation predicts total enrollment of 550 students. Under the average-yield simulation, total enrollments reach 1,178. See Table II-7 and Chart II-5.

We lack verified information about the characteristics of housing in Phase 2 of the project—the bedroom mix, the density of the housing, and whether units will be rental or owned. As more information becomes available, the simulations can be refined.

Key Finding: By 2040, expect between 500 and 1,200 students in Parcmerced (occupancy expected to begin in 2018).

Map II-2
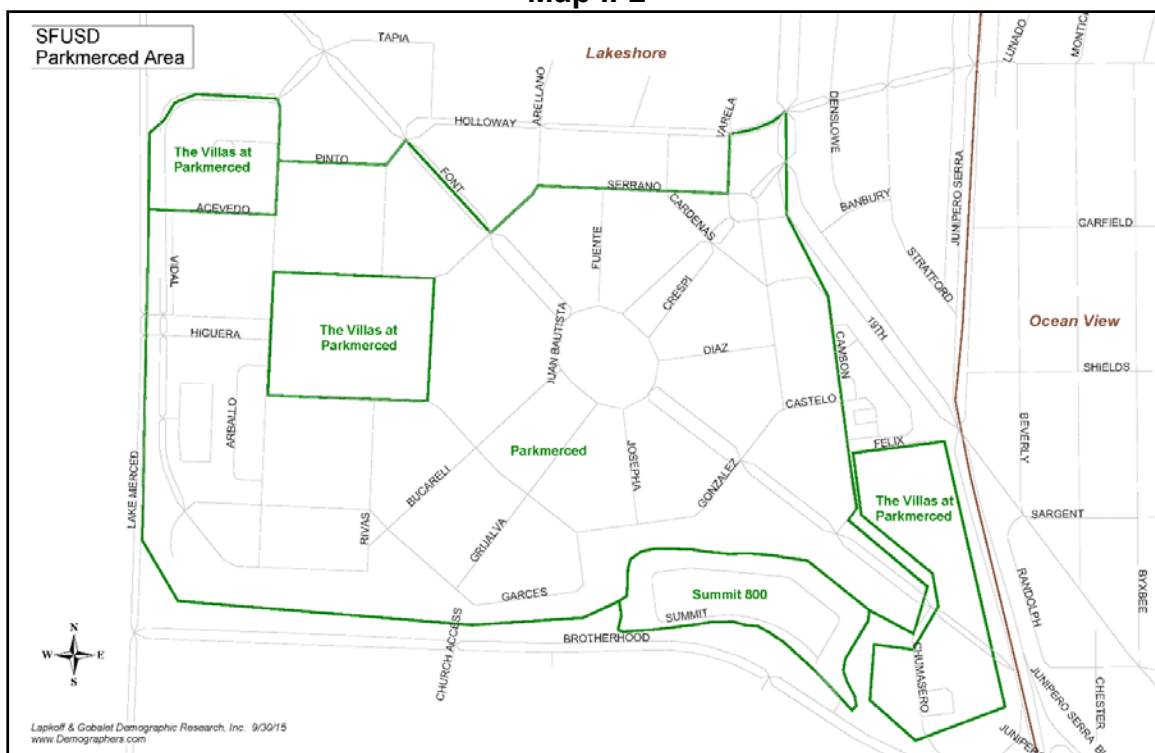
Table II-7

K-12 Enrollment Forecast Simulation for Parcmerced at Buildout

Type of Unit	# Units	Possible Yields Historical Yield	Modified Yield	Possible Enrollments Using Historical Yield	Using Modified Yield
Phase 1 - non-replacement					
Studios and 1BR - market	602	0.01	0.01	6	6
2BRs - market	185	0.05	0.20	9	37
3BR - market	103	0.05	0.35	5	36
Inclusionary Housing	47	0.25	0.50	12	24
Phase 2 - non-replacement					
Studios and 1BR - market	1,660	0.01	0.01	17	17
2BRs - market	2,371	0.05	0.20	119	474
3BR - market	474	0.05	0.35	24	166
Inclusionary Housing	237	0.25	0.50	59	119
Total - non-replacement	5,679			250	878
Existing	3,221			300	300
Total in Parcmerced	8,900			550	1,178

Housing Source: Number of units by type for Phase 1 based on data from Jeremy Shaw, SF City Planning Dept. The mix of housing in Phase 2 is unconfirmed.

Chart II-5

K-12 Student Forecast for Parcmerced

Legend:
- Enrollments Simulated from Historical Yields
- Enrollments Simulated from Modified Yields
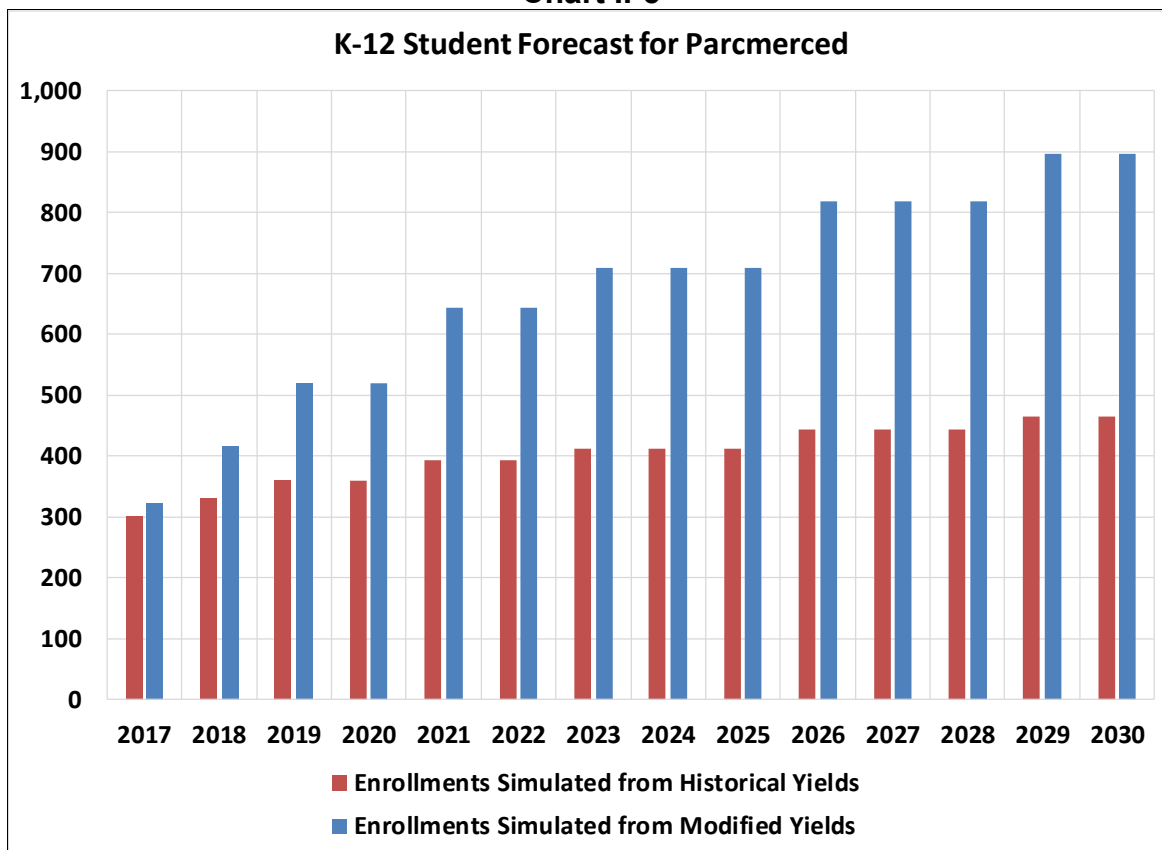
Mission Bay

The Mission Bay North and South Redevelopment Project Areas were established in 1998. About 7,000 housing units are planned. Less than 2,000 units are left to be built, most of which are below-market-rate, stand-alone affordable developments.[5]

To date only 48 SFUSD students live in the Mission Bay market-rate and inclusionary housing units, for a student yield of .01. Perhaps residents do not have school-aged children or are enrolling them in private schools. Most of the current students live in stand alone units. In 2016, there were 253 students living in Mission Bay's stand alone developments. Mercy Housing has a yield of .81, one of the highest yields observed in San Francisco.

Another 1,941 housing units will be built in Mission Bay by 2024. About 900 units will be below-market-rate family units, and likely to house many students. See Table II-8 and Maps II-3 and II-4. As the maps show, there will be far more below-market-rate housing developments (shown in solid red) in the future than exist now.

Table II-8

	Expected Housing in Mission Bay			
Developer	Type of Housing	# Units	# Affordable Units	Expected Completion Year
OCII/Related (Block 7W)	Stand-alone BMR	200	200	2017
Block 1 Investors (Block 1)	Market	350		2018
OCII/TNDC (Block 6E)	Stand-alone BMR	143	143	2018
OCII (Block 3E)	Stand-alone BMR; Non-family	62	62	2019
OCII (Block 3E)	Stand-alone BMR; family	57	57	2019
OCII (Block 6W)	Stand-alone BMR	143	143	2020
OCII (Block 9)	Stand-alone BMR; Non-family	141	141	2021
OCII (Block 9a)	Stand-alone, ownership	63	63	2022
OCII (Block 12W)	Stand-alone BMR	145	145	2023
OCII (Block 4E)	Stand-alone BMR	114	114	2024
UCSF (New Housing)	Campus housing	523		2024**
Total		1,941	1,068	
** Unsure of when UCSF is planning on starting				

Source: Sally Oerth, SF Office of Community Investment and Infrastructure (OCII)

Ultimately, we expect between 750 and 1,000 SFUSD K-12 students to live in Mission Bay, primarily in the stand alone affordable housing. See Table II-9 and Chart II-6.

Key Finding: Currently, about 300 students live in Mission Bay. When all housing is completed, we expect between 750 and 1,100 students living in Mission Bay.

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[5] Stand alone affordable developments are comprised of 100 percent below-market-rate units.

Table II-9

Type of Unit	# Units	Possible Yields		Possible Enrollments	
		Historical Yield	Modified Yield	Using Historical Yield	Using Modified Yield
Inclusionary	0	0.25	0.25	0	0
BMR Stand Alone	865	0.50	0.80	433	692
Campus housing	523	0.01	0.05	5	26
Non-family Stand Alone	203	0.01	0.05	2	10
Market	350	0.01	0.05	4	18
Subtotal					
Existing students				314	314
Total	1,941			757	1,060

Source of housing: Sally Oerth, OCII.

Chart II-6

K-12 Student Forecast for Mission Bay, including existing students

■ Enrollments Simulated from Historical Yields

■ Enrollments Simulated from Modified Yields
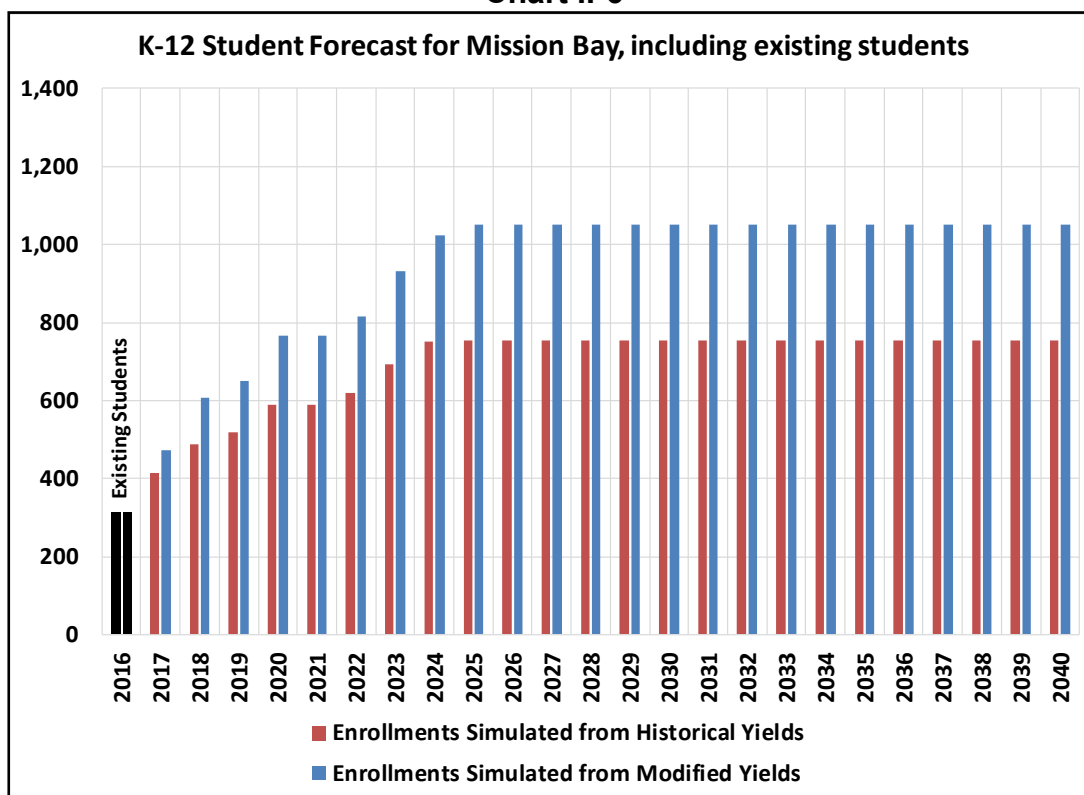
Map II-3 – Mission Bay Housing Occupied by 10/2016
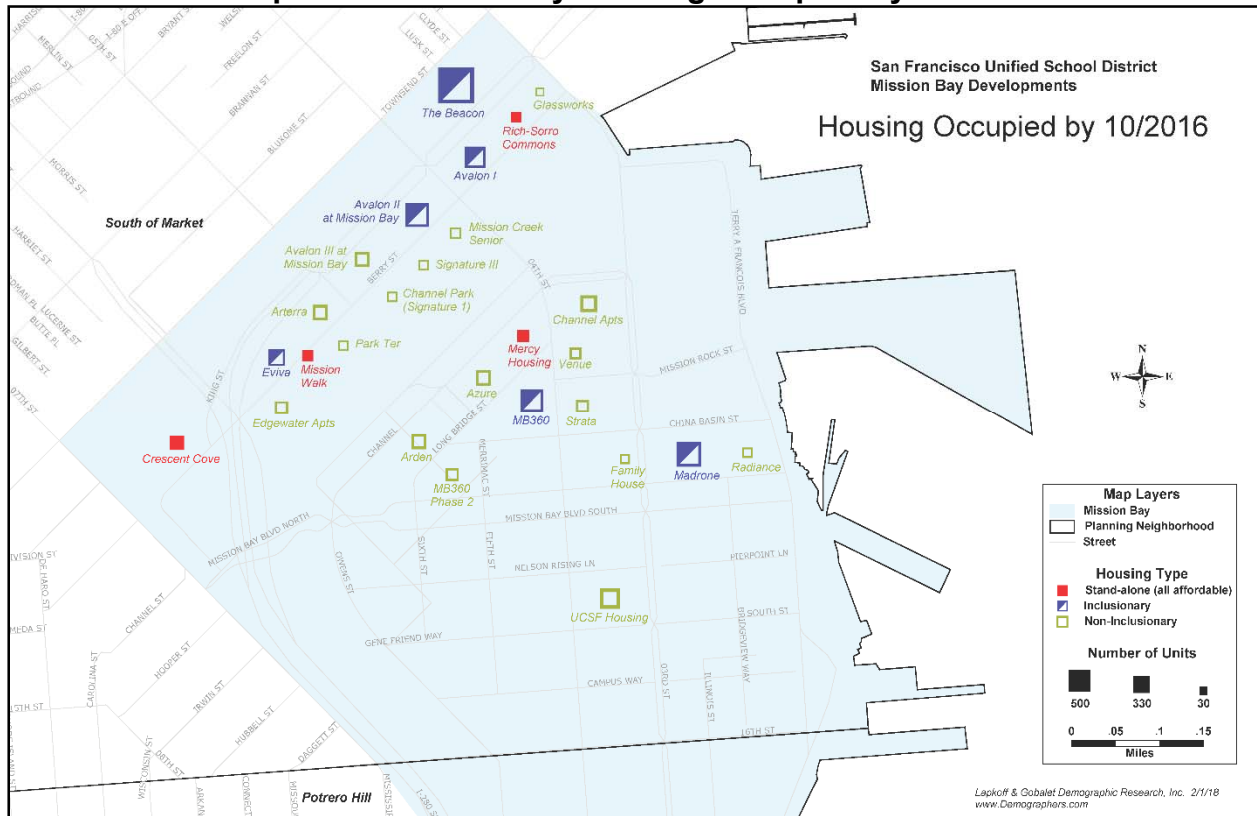
Map II-4 – Mission Bay post-10/2016 Housing
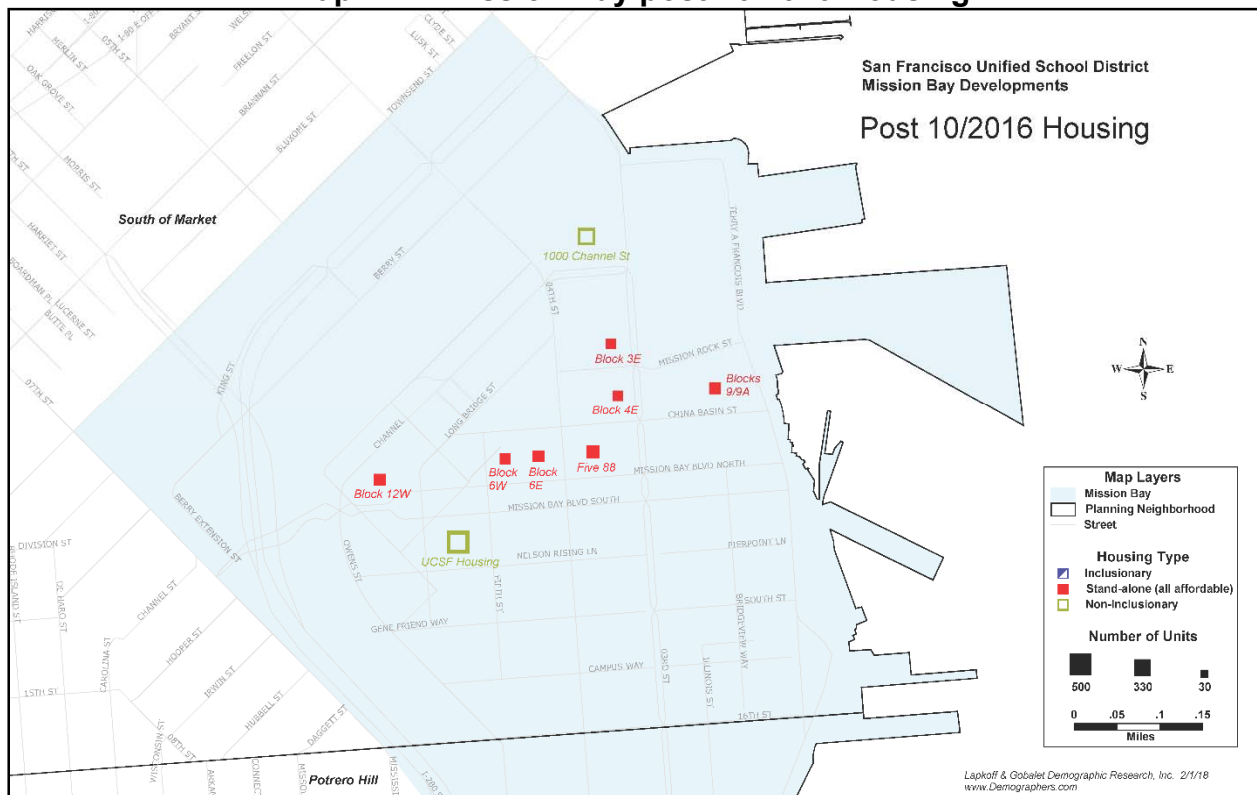
Yield Assumptions Used in the Remaining Areas

Table II-10 shows the yield assumptions used in the Historical and Modified Yield Scenarios.

Table II-10

	Historical Yield Scenario			Modified Yield Scenario		
Yield Assumptions for Housing Development Areas Outside the Five Large Neighborhoods						
	Stand Alone	Inclusionary	Market Rate	Stand Alone	Inclusionary	Market Rate
Most Developments	0.50	0.05	0.01	0.80	0.25	0.10
Visitacion Valley, Executive Park, Balboa Station	0.50	0.25	0.10	0.80	0.40	0.20
HOPE SF Projects: Sunnydale, Potrero Hill, and Hunters View	n/a	0.50	0.10	n/a	0.50	0.20

Although we lack detailed information about the characteristics of the future housing developments, we believe these are reasonable assumptions to use in our forecast scenarios. When more information becomes available, yield assumptions should be refined, and forecasts revised.

Chapter III: Enrollment Forecast from Existing Housing

This section provides public school enrollment forecasts for San Francisco (SFUSD, charters, and County programs). These forecasts *do not* include the effects of housing growth in major new developments. For a complete forecast, projected student residents of future housing need to be added. A combined forecast uses the forecasts described here and the enrollment forecast from major new developments. The total enrollment forecast is described in Chapter I.

Our findings are:

- We do not expect big changes in **elementary enrollments** from existing housing in the next few years.

- **Middle school enrollments** from existing housing will continue increasing for another two years, then decline slightly and then rise again after 2022. After these changes, we expect middle school enrollment from existing housing to be about 300 students larger in 2025 than in 2016.

- We expect **high school enrollments** from existing housing to stop declining and start rising. When we assume that the grade progression patterns of the last five years continue, the District should expect a sharp rise in enrollments during the next few years from existing housing alone. We expect a 1,000-student increase by 2021.

- **TK-12 enrollments** from existing housing are expected to rise by about 1,500 students by the end of the decade.

These findings result from our evaluation of several possible forecast scenarios. We produced forecasts using a variety of assumptions, as described in Appendix C. Here, Chart III-1 shows the forecast of enrollments from existing housing assuming average rates during the previous five years continue and Chart III-2 provides the forecasts by school level .

Table III-1 provides grade detail for the forecast. They yellow-shaded cells indicate uncertainty for grades and years, because there are no data (mostly numbers of births) upon which to forecast the size of future kindergarten cohorts.

Key Finding: In the short run, we expect elementary enrollments from existing housing to stabilize, middle school enrollments to increase modestly, and high school enrollments to increase substantially.

Chart III-1

K to 12 Enrollments from Existing Housing
Actual and Forecasted

Chart III-2

K to 5 Enrollments from Existing Housing
Actual and Forecasted

6 to 8 Enrollments from Existing Housing
Actual and Forecasted

9 to 12 Enrollments from Existing Housing
Actual and Forecasted
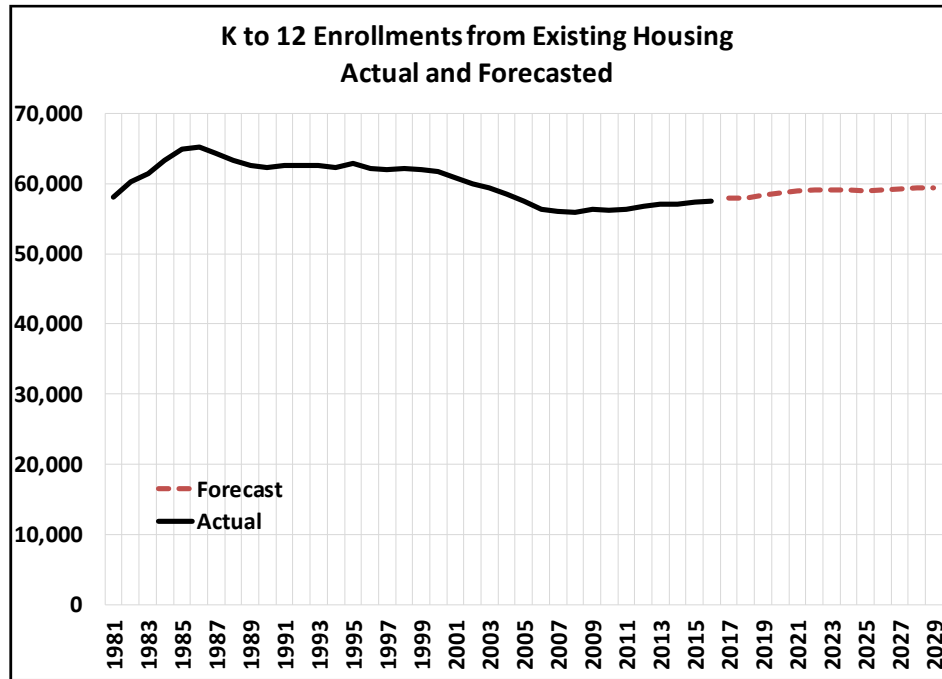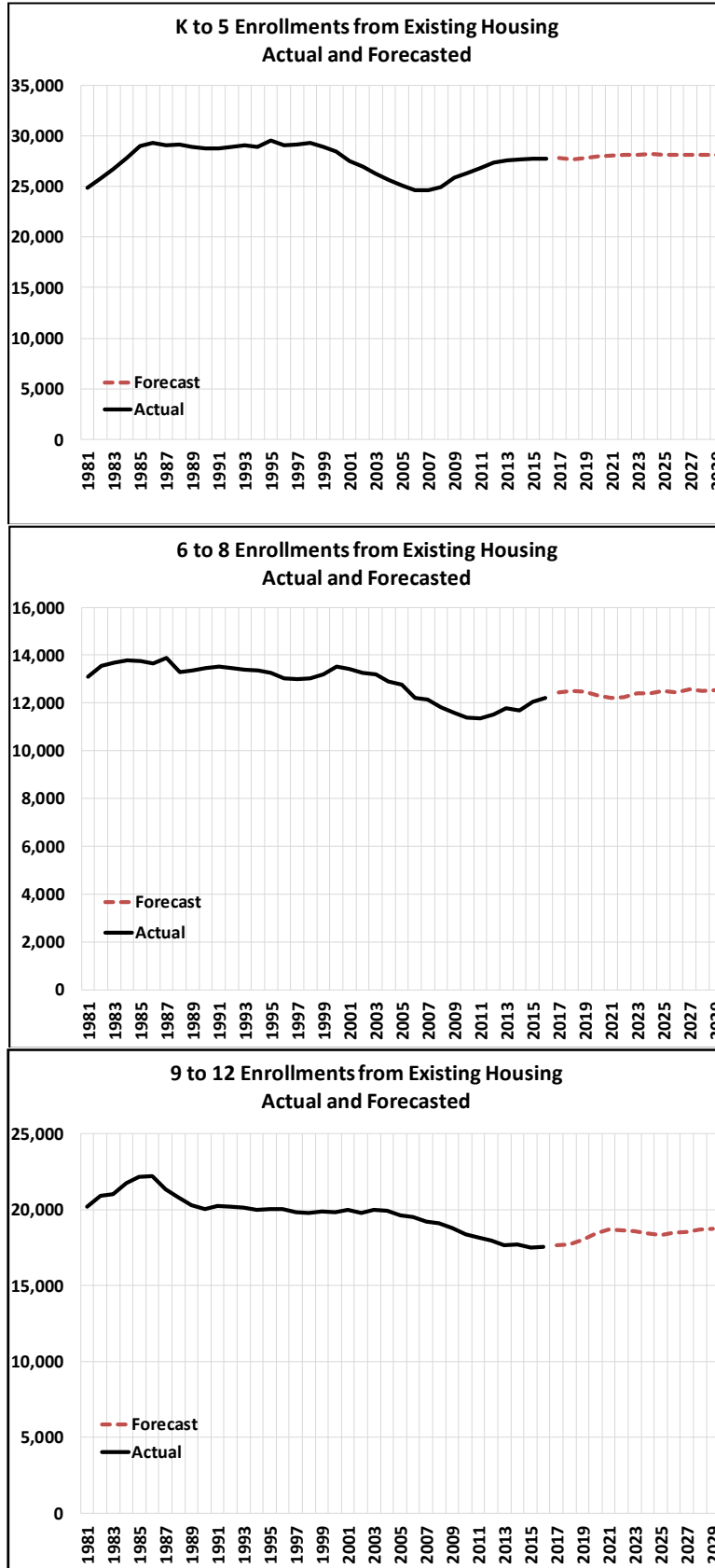
Table III-1: Forecast of Enrollments from Existing Housing

Forecast Scenario Using the 5-year Average Patterns

Year	TK	K	1	2	3	4	5	6	7	8	9	10	11	12	Total	K to 5	6 to 8	9 to 12
2016	415	4,723	4,597	4,493	4,482	4,551	4,496	4,115	4,115	3,989	4,238	4,420	4,515	4,382	57,531	27,757	12,219	17,555
2017	425	4,832	4,629	4,530	4,452	4,411	4,518	4,175	4,116	4,134	4,430	4,379	4,266	4,577	57,875	27,797	12,426	17,652
2018	413	4,692	4,736	4,561	4,488	4,382	4,379	4,195	4,176	4,136	4,591	4,577	4,226	4,325	57,878	27,651	12,507	17,719
2019	427	4,849	4,599	4,667	4,520	4,417	4,350	4,066	4,197	4,196	4,592	4,744	4,418	4,284	58,325	27,828	12,459	18,038
2020	420	4,774	4,753	4,531	4,625	4,448	4,385	4,039	4,067	4,216	4,660	4,745	4,579	4,478	58,720	27,935	12,323	18,461
2021	424	4,820	4,679	4,683	4,490	4,551	4,416	4,072	4,040	4,087	4,682	4,814	4,580	4,641	58,980	28,062	12,199	18,718
2022	422	4,793	4,724	4,610	4,640	4,419	4,518	4,101	4,073	4,059	4,538	4,838	4,647	4,643	59,025	28,126	12,233	18,665
2023	422	4,793	4,698	4,655	4,568	4,567	4,386	4,196	4,102	4,092	4,508	4,689	4,669	4,711	59,056	28,090	12,390	18,577
2024	422	4,793	4,698	4,629	4,612	4,496	4,533	4,074	4,197	4,121	4,545	4,658	4,526	4,733	59,037	28,184	12,391	18,461
2025	422	4,793	4,698	4,629	4,587	4,539	4,463	4,210	4,075	4,217	4,576	4,695	4,496	4,588	58,988	28,132	12,501	18,355
2026	422	4,793	4,698	4,629	4,587	4,514	4,506	4,145	4,211	4,094	4,682	4,728	4,532	4,557	59,100	28,150	12,450	18,500
2027	422	4,793	4,698	4,629	4,587	4,514	4,481	4,185	4,146	4,231	4,546	4,838	4,564	4,594	59,229	28,125	12,561	18,542
2028	422	4,793	4,698	4,629	4,587	4,514	4,481	4,162	4,186	4,165	4,698	4,697	4,670	4,626	59,330	28,125	12,513	18,692
2029	422	4,793	4,698	4,629	4,587	4,514	4,481	4,162	4,163	4,205	4,626	4,854	4,534	4,734	59,403	28,125	12,530	18,748
2030	422	4,793	4,698	4,629	4,587	4,514	4,481	4,162	4,163	4,183	4,670	4,779	4,686	4,596	59,363	28,125	12,507	18,731

Notes:

Shading indicates greater uncertainty because there are no birth data upon which to base forecasts of kindergarten enrollment for those grades and years.

Enrollments include SFUSD students, charter students, and students in County programs. Five Keys Charter Schools excluded.

Why we Expect Enrollments to Grow (modestly)

Even without students from new housing, we expect enrollment growth because:

1. Kindergarten enrollments were higher between 2008 and 2013 than between 2003 and 2007; as these more recent, larger cohorts progress through the grades, enrollments should increase. Chart III-3 shows kindergarten cohorts and their current grade. One can see that the cohorts currently in grades 8 through 12 are much smaller than the younger cohorts. As the younger cohorts progress to higher grades, enrollments will rise in those higher grades, all else being equal.

2. A much larger share of SFUSD students are staying in high school than was previously the case.

Chart III-3

Kindergarten Enrollment, 1981 - 2016
Excludes TK, No adjustment
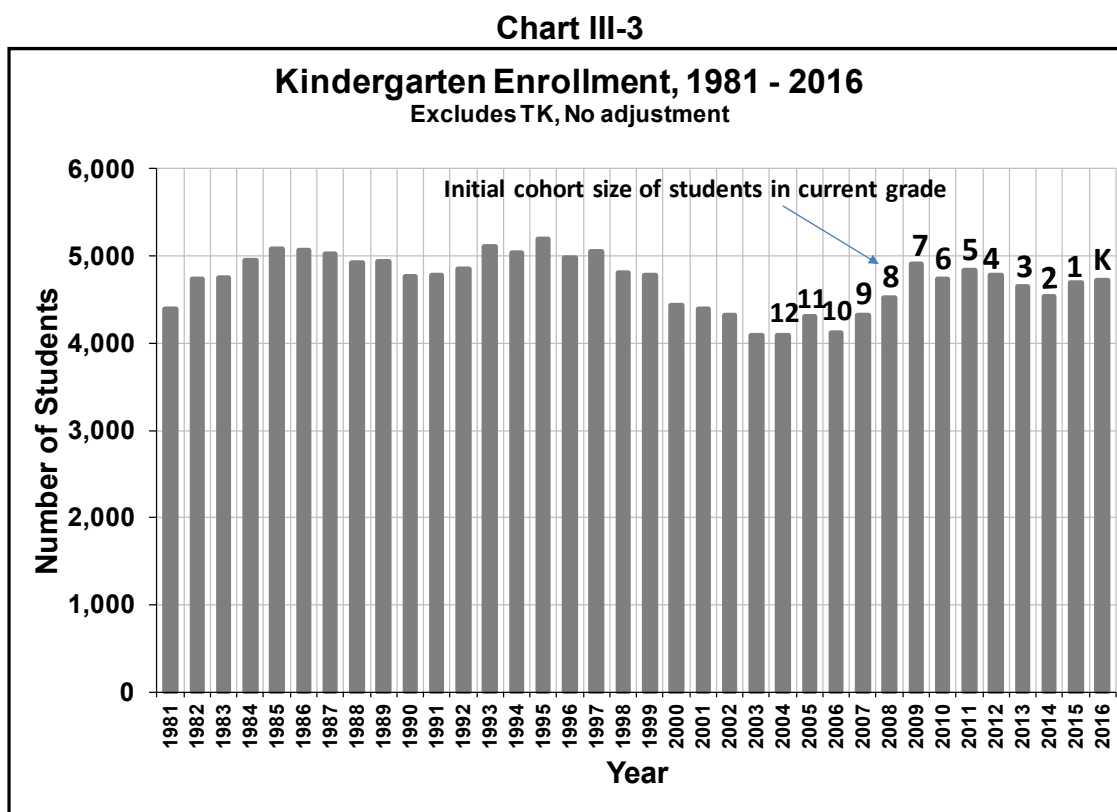
Forecast Method

The cohort survival technique, a standard demographic forecasting method, is used to project enrollments from existing housing. This method starts with the numbers of students enrolled in each grade (in fall 2016, since final counts for fall 2017 are not yet available). Student cohorts are advanced to the next grade for each forecast year. This year's first graders become next year's second graders, the following year's third graders, and so on. However, as a cohort moves through the grades, its numbers can change. Figure III-1 illustrates this process. When forecasting, it is very important to account for students entering and leaving the District's schools. This change in cohort size as the groups of students move to the next grade is called a

grade progression. One of the two major assumptions used in the forecast concerns grade progressions.

Figure III-1: Cohort Survival/Grade Progression
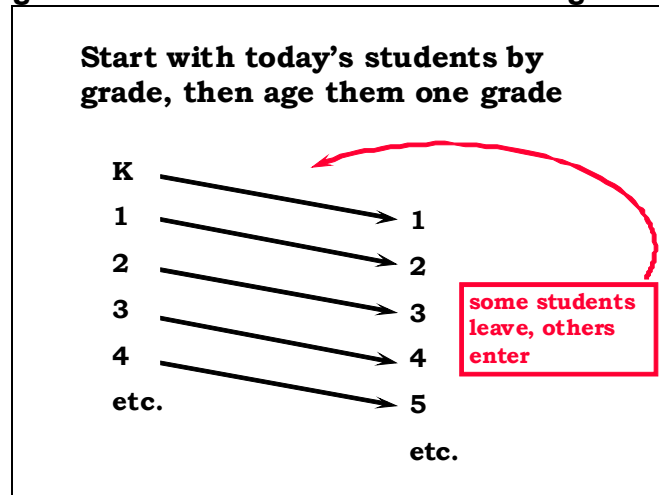
The second major component of this forecast concerns kindergarten enrollments. We employ a cohort survival method to guide our assumptions, using births to San Francisco residents five years earlier to forecast each year's kindergarten enrollments. Note that we have birth data only through 2013, which yields kindergarten enrollments through 2017. Our kindergarten forecasts are uncertain thereafter.

We focus on the K/B ratio, which for San Francisco has historically been about 50 percent. In other words, SFUSD kindergarten enrollments equal about half of the number of the births five years earlier.

Both historical grade progression ratios and K/B ratios are discussed at length below. In addition to being useful in the forecast model, the historical rates are interesting because they give insights into reasons for past enrollment levels and variations and reflect past migration rates and other demographic behaviors.

Grade Progressions

Changes in cohort size usually result from families migrating into and out of the District, but they also can be caused by private-to-public or public-to-private school transfers and by students repeating or skipping grades or dropping out altogether. Migration typically influences grade progressions at all school levels, while transfers between public and private schools usually occur between school levels (between kindergarten and first grade, fifth and sixth grades, and eighth and ninth grades). District policies regarding the retention of students in a specific grade often influence high school grade progressions if the students are required to accumulate a specific number of credits before progressing to the next grade.

We have measured changes in cohort size in three ways:

1. By tracking an individual cohort over time (usually for many grades);

2. By measuring "period" grade progressions (each grade progression during a pair of years);

3. By comparing grade progressions over time: measuring one specific set of grade progressions (say, from eighth to ninth grade, and tracking its levels over time).

Each is discussed below.

Tracking an individual cohort over time: Chart III-4 illustrates how an individual student cohort may be tracked over time. It shows the size of the kindergarten class of 2004 as it progressed through the grades. This cohort graduated from high school in June 2016. By the time this cohort reached the eighth grade, its number had shrunk to 91 percent of its original size.[6] In ninth grade, enrollment increased by 3 percent because some private school students switched to public schools and other students repeated the ninth grade. The cohort size increased between ninth and tenth grade, probably from students repeating the tenth grade.

Chart III-4

2004 Kindergarten Cohort As it Moved to 12th Grade
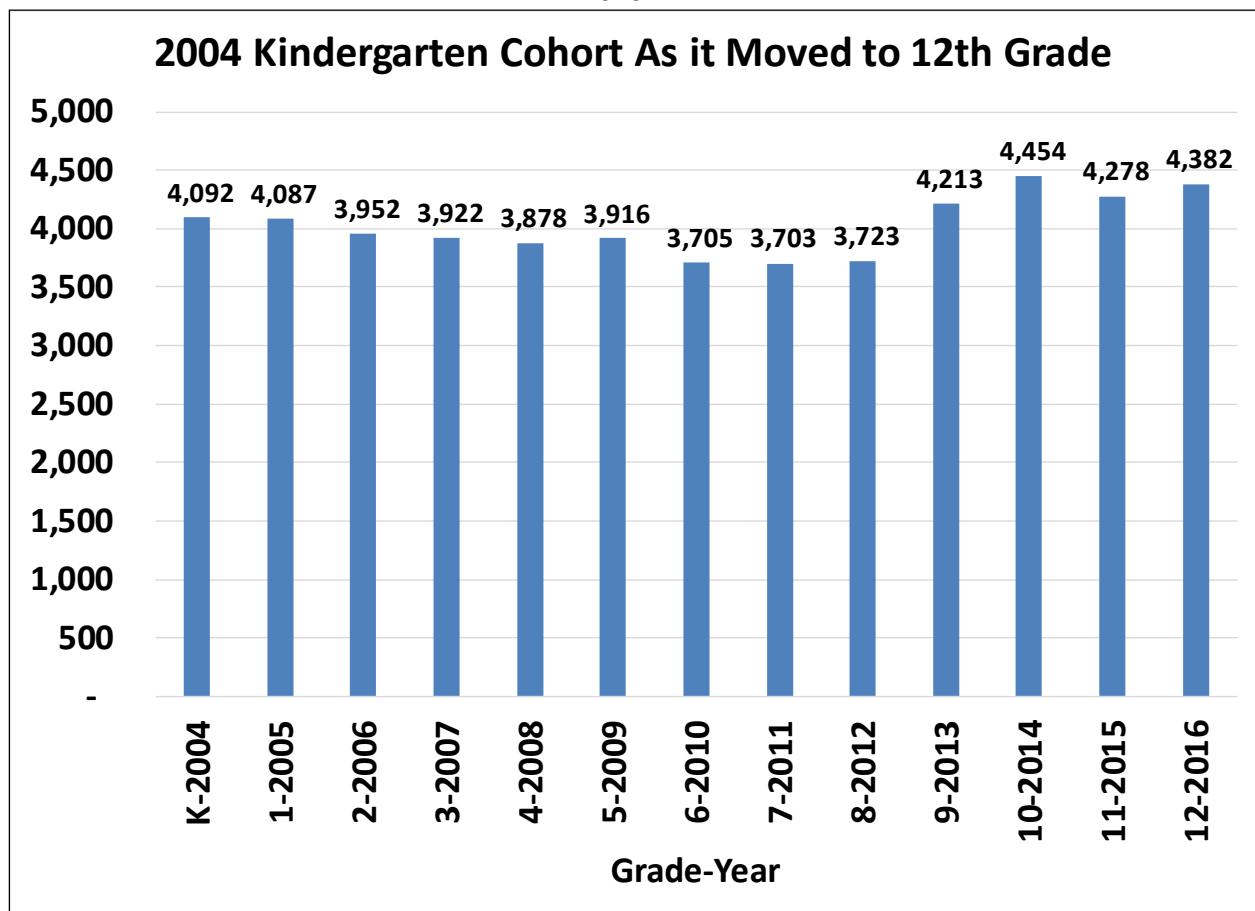
Measuring period grade progressions: Another way to measure cohort size changes is to examine how the number of students in each grade changed between fall of one school year and

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[6] Note that these are *net* measurements. Not all remaining students actually entered District schools as kindergartners.

fall of the next (a "period"). This is what demographers (and others) call a *grade progression*. Chart III-5 shows changes in the size of each cohort between fall 2015 and fall 2016 (bars) as well as the average of the past ten years (line). The first bar on the chart compares the number of fall 2015 kindergartners with the number of fall 2016 first graders. For example, 99 students were lost (net) as these kindergartners progressed to first grade. Most of the elementary grades have negative grade progressions, meaning that more students left than entered each grade. The five-year average grade progressions resemble those for 2015>2016, suggesting that grade progressions have been relatively stable over time.

Most of our school district clients experience a large (net) gain of students between eighth and ninth grades. In San Francisco, the progression from eighth to ninth grade is particularly large compared with California in general and other school districts in the area. The gain is due partly to transfers from private elementary/middle schools to public high schools, and partly from students repeating the ninth grade.

Chart III-5

Grade Progressions between Fall 2015 and Fall 2016

Legend: 2015>16 grade progressions; 5-year average
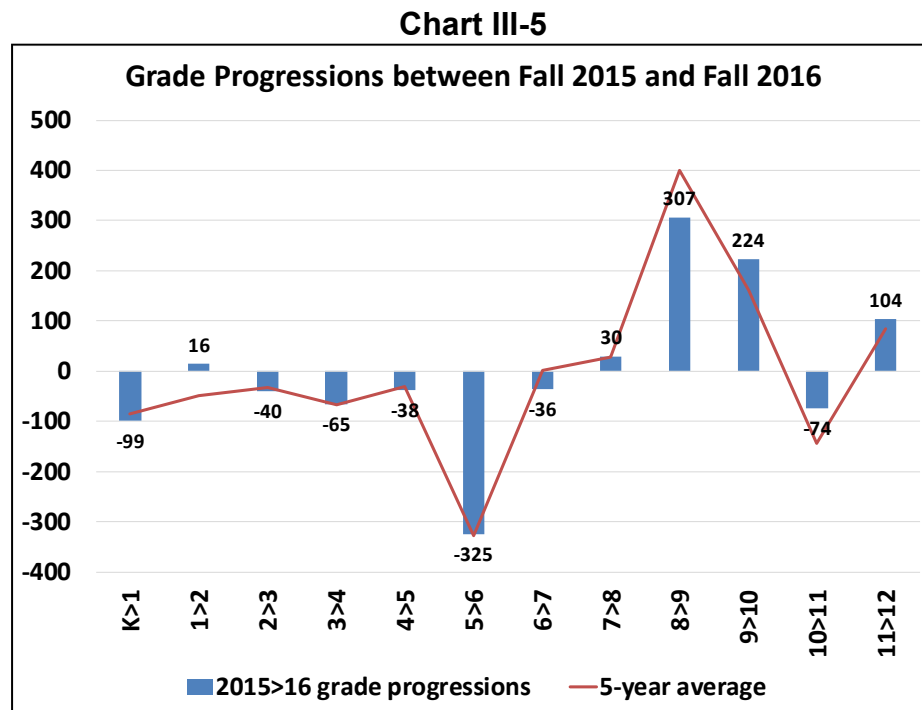
Comparing (aggregate) grade progressions over time: The third way to measure changes in cohort size is to compare grade progressions over time. This involves aggregating the grade progressions so that we can summarize elementary, middle, and high school progressions for each pair of years for which we have data. For example, to measure elementary school grade progressions, we compare the sum of kindergarten through fourth grade enrollments in one year with first through fifth grade enrollments the following year. These aggregate grade progressions are useful for comparing trends over time because they provide a long-term perspective on changes and the levels that may be possible if future conditions resemble those of the past. These charts are particularly useful because they show that the recent high school grade progressions differ from historical patterns.

Chart III-6 shows the absolute numerical change in cohort size (grade progression *differences*), by school level, during each of the last 35 years. The differences represent the net *number* of students that were either gained or lost as the cohort progressed to the next grade.

Chart III-7 shows the relative change from one grade to the next (grade progression *ratios*), also by school level, over the same period. The grade progression ratios represent the net *percentage* of students gained or lost as the group progressed to the next grade.

During the last five years, grade progressions have been fairly stable:

- Elementary cohorts have shrunk two percent (net) each year (Chart III-7).

- Middle school cohorts have also shrunk two percent each year, but the pattern varies tremendously by grade. Chart III-8 shows highly negative 5>6 grade progression rates, but modestly positive 6>7 and 7>8 rates.

- High school grade progressions changed dramatically in 2010, from strongly negative to strongly positive. During the last five years, the grade progressions have averaged 2.9 percent, with relatively little variation. It appears that more students are staying in high school, and perhaps more students are entering 9th grade from private schools than in the past.

The 35 years of grade progressions we have studied provide an historical context for understanding the current grade progression rates. Since 1985, in all but one year, the elementary progressions were negative, with more students leaving the District than entering. Elementary schools lost (net) an average of 1.4 percent of students each year after 1985. The loss was 1.9 percent in middle school.

Key Finding: More elementary and middle school students leave the District schools than enter each year. The 5>6 grade progression is particularly negative, and consistently so. The elementary and middle school grade progressions have been fairly stable over the 35 years for which we have data.

Key Finding: High school progressions changed a lot since 2010: instead of a net loss of students, there has been a net gain. The positive grade progressions may result from changes in the number of students staying in high school longer.

Chart III-6

Elementary Grade Progressions ; Grades K to 4 into Grades 1 to 5

Middle School Grade Progressions ; Grades 5 to 7 into Grades 6 to 8

High School Grade Progressions ; Grades 8 to 11 into Grades 9 to 12

Chart III-7

Elementary Grade Progression Rates ; Grades K to 4 into Grades 1 to 5

Middle School Grade Progression Rates ; Grades 5 to 7 into Grades 6 to 8

High School Grade Progression Rates ; Grades 8 ot 11 into Grades 9 to 12

Chart III-8

5>6 Grade Progression Rates

Number of Fifth Compared to the Number of Sixth Graders in the Following Year

(vertical axis: -10% to 6%; horizontal axis: 1981>82 to 2015>16)

6>7 Grade Progression Rates

Number of Sixth Compared to the Number of Seventh Graders in the Following Year

(vertical axis: -4% to 8%; horizontal axis: 1981>82 to 2015>16)

7>8 Grade Progression Rates

Number of Seventh Compared to the Number of Eighth Graders in the Following Year

(vertical axis: -8% to 6%; horizontal axis: 1981>82 to 2015>16)

High School Grade Progressions

High school enrollments have varied a lot from year to year. As indicated by the high school portions of Charts III-6 and III-7, the aggregate grade progressions were very negative between fall 2005 and fall 2006, with a total of 800 (net) students lost (more than four percent of the total high school student body). However, since 2009, high schools have *gained* students at a growing rate, from an additional 64 students between 2009 and 2010 to a record gain of 638 between 2013 and 2014.

Consider the individual sets of high school grade progressions (8>9, 9>10, 10>11, and 11>12) in Chart III-9. The progression ratios varied quite a bit more than those for the elementary and middle school grades. The magnitude of the variations in the individual grade progressions cannot be accounted for by changes in migration trends or changes in private-to-public school transfers. Instead, we suspect much of it has to do with changes in the numbers of students repeating grades. After discussing the individual grade progressions, we analyze changes in the pattern of students repeating grades at the high school level.

There was a dramatic rise in the eighth-to-ninth grade progression ratios between 2004 and 2008, and then the ratios fell, and reached historic lows recently. During the same period, the ninth-to-tenth-grade progression was very low. Perhaps many students repeated the ninth grade during these years, explaining both grade progression trends. The tenth-to-eleventh-grade progression was also low during the 2005 to 2008 period, suggesting that students repeated not only the ninth grade but also the tenth grade.

Since 2009, different patterns have emerged. The historically high eighth-to-ninth-grade progressions have been lower, while the progressions between subsequent pairs of grades have been higher than usual. This also would be explained if fewer students repeated grades.

From one perspective, this may not matter because if the students are in the District, but assigned a different grade, what difference does it really make? It would not make any difference, except for one very important thing: the *overall* aggregate grade progressions have been much higher in the last five years. In fact, levels are much higher than in all past years for which we have data. One possible explanation consistent with the facts is that students who were promoted to the next grade were encouraged and stayed longer in District schools. This would cause the overall aggregate grade progressions to be higher.

In 2015, we conferred with Bill Sanderson, Assistant Superintendent, LEAD – High Schools Division, and as a result believe that there have been significant changes in District policy or practices in recent years that caused high school grade progression to rise. Mr. Sanderson offered three possible explanations: (1) recent changes in special programs encouraged low-performing high school students to take more than four years to complete graduation requirements; (2) national immigration policies have changed to permit undocumented students to attend high school; and (3) SFUSD staff has improved database accuracy.

In general, it would be informative to track individual students' progress through the grades, to determine how repeating grades have affected student retention and graduation rates. This analysis is beyond the scope of our current project and we urge SFUSD staff members to investigate this. In other words, we recommend that the District investigate the possibly good news that more high school students are staying longer and that graduation rates are increasing.

Chart III-9

8>9 Grade Progression Ratios
Includes All County Enrollments, Except Five Keys

10>11 Grade Progression Ratios
Includes All County Enrollments, Except Five Keys

9>10 Grade Progression Ratios
Includes All County Enrollments, Except Five Keys

11>12 Grade Progression Ratios
Includes All County Enrollments, Except Five Keys
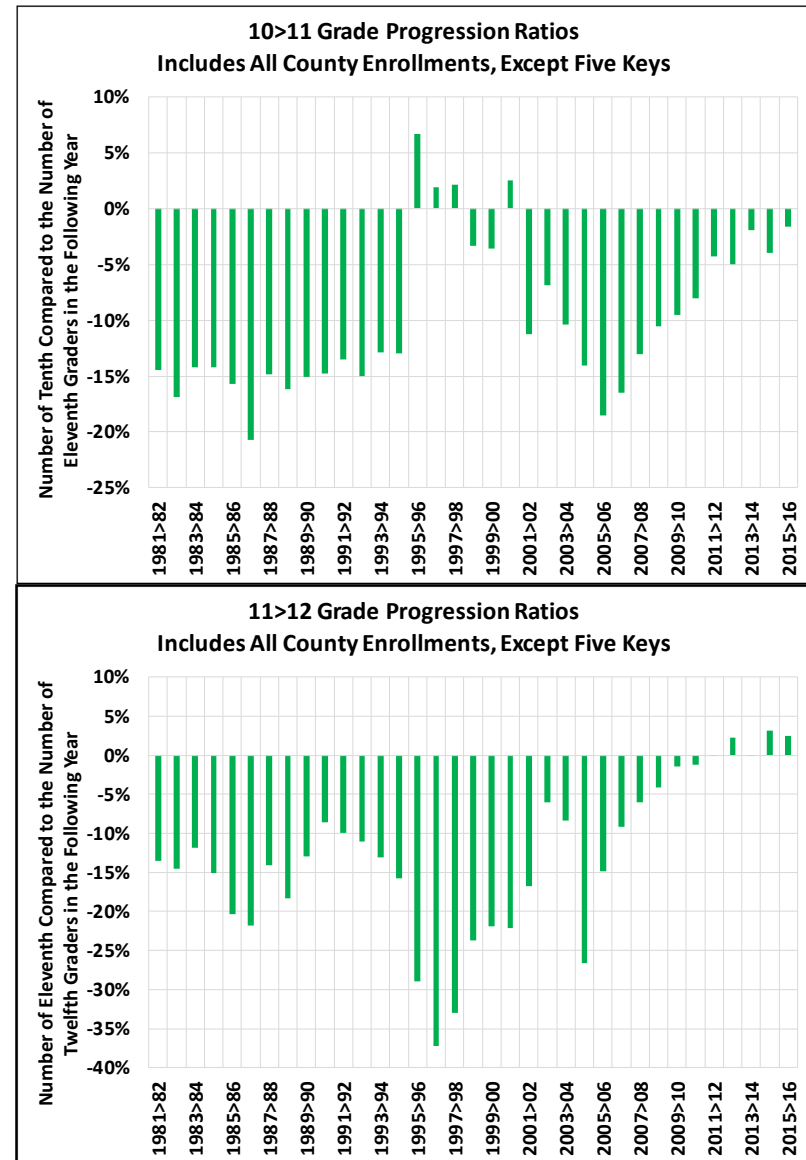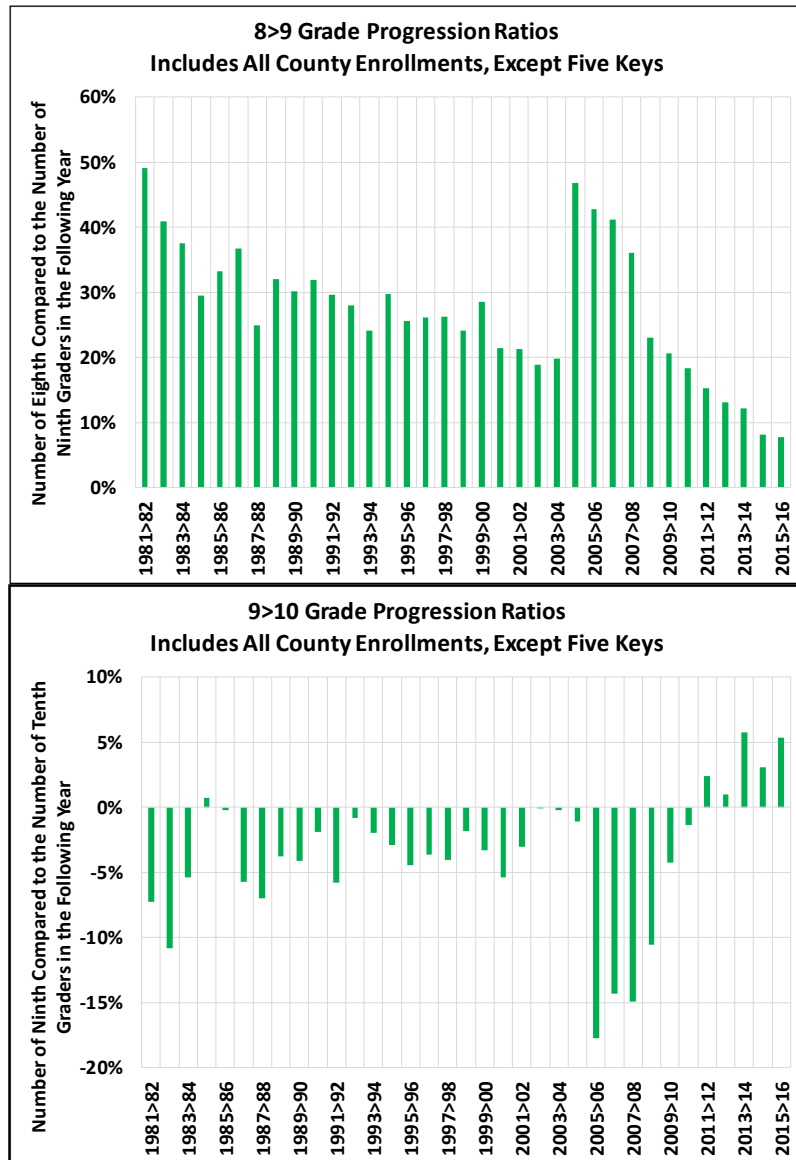
Kindergarten Enrollment, Births, and Kindergarten Forecasts

As stated above, the enrollment forecast model requires a separate forecast of future kindergarten enrollments. These forecasted kindergarten students are then advanced through the grades (with subsequent grade progressions applied). Therefore, kindergarten forecasts have a large impact on the overall forecast. Unfortunately, this is the most uncertain aspect of the model, as there is little basis to predict kindergarten enrollment beyond the next few years.[7]

One way to suggest possible future kindergarten enrollments after the available birth data is to study historical patterns. Chart III-10 shows the number of kindergartners each year since 1981. The smallest cohort was in 2003 (4,088 students) and the largest was in 1995 (5,188 students). One might consider this to be the range of plausible future kindergarten enrollments from existing housing unless there were to be a major socio-economic shift in the City that could produce a very different demographic pattern.

Chart III-10

Kindergarten Enrollment
Excludes TK
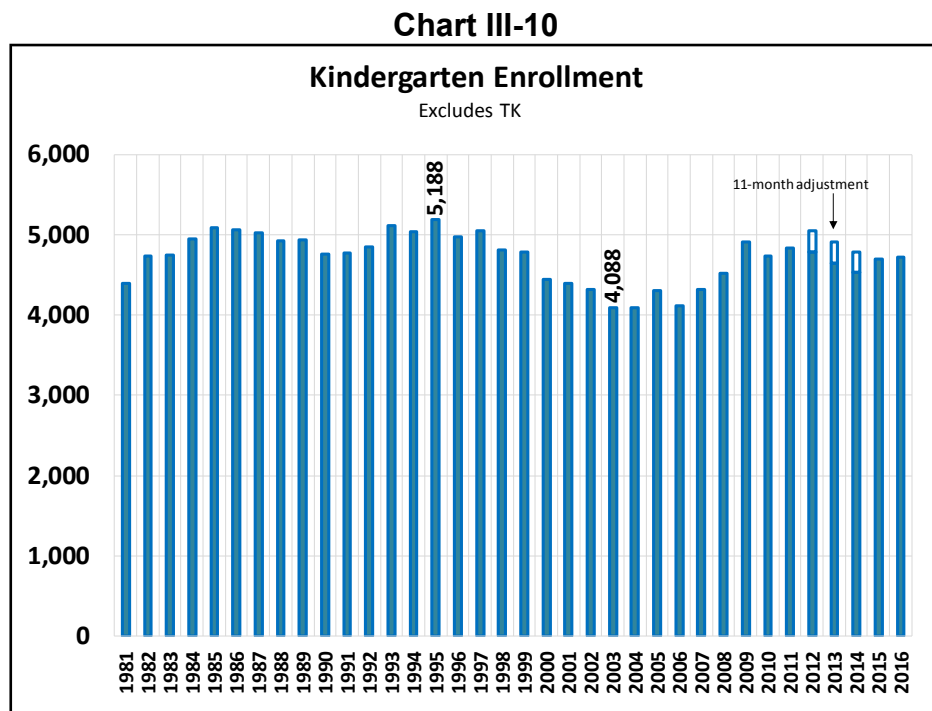
Between 2000 and 2008, the kindergarten cohorts were abnormally small. This created an enrollment decline in elementary schools, followed by a decline in the middle schools, and finally a decline in the high schools. In Fall 2016, these cohorts are in the eighth to twelfth grades. Presently, the elementary enrollments have returned to more normal enrollment levels, and middle school numbers will soon follow. In a few years, high school enrollments will rise as the small cohorts graduate and are replaced by larger ones.

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[7] Birth data are not available immediately after the end of a calendar year. We typically have only three or four years of birth data to forecast kindergarten enrollments.

Kindergarten enrollments between 2009 and 2016 have been fairly stable, despite the fact that the 2012 to 2014 cohorts had only 11 months' worth of students (because of the implementation of the Transitional Kindergarten program). The stability of these cohort sizes suggests that enrollments will be stable as the students progress through the grades. Currently, these students are in elementary grades, and elementary enrollments have stabilized. As the students reach middle school, middle school enrollments will be stable for at least seven years, while these students inhabit those grades. As the students reach high school, high school enrollments will stabilize, all else being equal.

Key Finding: Between 1981 and 2016, kindergarten enrollment has ranged between 4,000 and 5,200 students. This suggests it would be highly unusual for kindergarten enrollment from existing housing to exceed these levels without a major demographic shift in the City or a decline in private school enrollment rates.

Key Finding: The 2001 to 2008 kindergarten cohorts were abnormally small, which caused elementary enrollments to decline. In Fall 2016, these small cohorts were in eighth through twelfth grades. Elementary enrollments have increased. Eventually, middle and high school enrollments will rise, as well.

Birth Trends

The number of births is the best predictor of future kindergarten enrollments. Chart III-11 shows the number of births to San Francisco residents between 1976 and 2016. The number changed a lot between 1980 and 2000, creating a bubble of children that reached its maximum size in 1989. Since 2000, and especially since 2009, the number of births has been remarkably stable, and this will cause kindergarten enrollments to be stable, all else being equal. Indeed, kindergarten enrollments have been stable since 2009 (2004 births).

The fact that the number of births was ten percent higher in the mid-1980s to mid-1990s than it is today means that there is a potential for more births to residents of the City's existing housing. San Francisco's "child carrying capacity" from existing housing is higher than present numbers reflect. If aging Baby Boomers are replaced by younger people, the number of births may again rise.

Chart III-11

Number of Births to San Francisco Residents
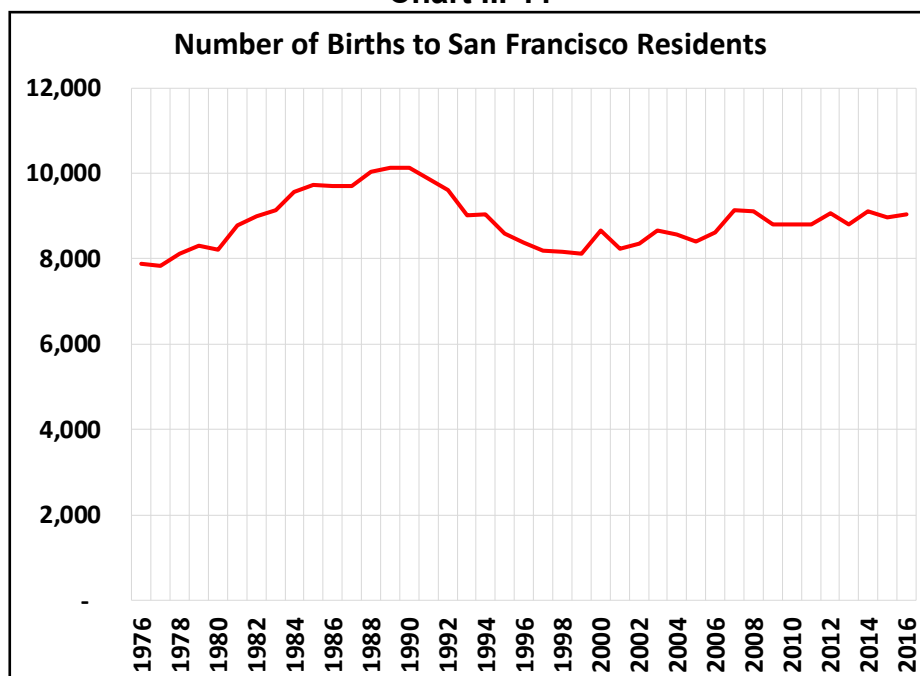
Although the number of births to San Franciscans has been fairly stable recently, there have been some ethnic shifts that could signal demographic changes that might affect future enrollments.

Key Finding: Between 2007 and 2016, the number of births was relatively stable. These births correspond to the 2012 through 2019 kindergarten cohorts. Without housing growth, this would cause elementary enrollments to stabilize.

Chart III-12 shows San Francisco births by the mother's race/ethnicity.[8] Most striking is that the number of births to White mothers increased while births to African-American and Asian mothers decreased. The number of births to Hispanic mothers has been relatively stable. The White increase began in the early 2000s, while the African-American decline began in the early 1990s. Because White births are the least likely to result in subsequent public school kindergarten enrollments, we would have expected the K/B ratio to decline since the early 2000s, but this has not been the case. This means that K/B ratios, by ethnicity, must be rising to offset the effect of increased White births and decreased Asian and Black births.

Table III-2 shows the K/B ratios by ethnicity. Because the District's records lack an ethnic code for many students or report multiple ethnicity for between about 300 and 700 students each year, it is difficult to reach conclusions about ethnic patterns. It appears that Hispanic and White kindergarten enrollments have increased in recent years, while the number of African American kindergartners has declined. The K/B ratio may have increased for both Whites and Hispanics, but it is difficult to know for sure because of the unassigned ethnicities.

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[8] We are in the process of obtaining updated data on births by race/ethnicity.

Chart III-12
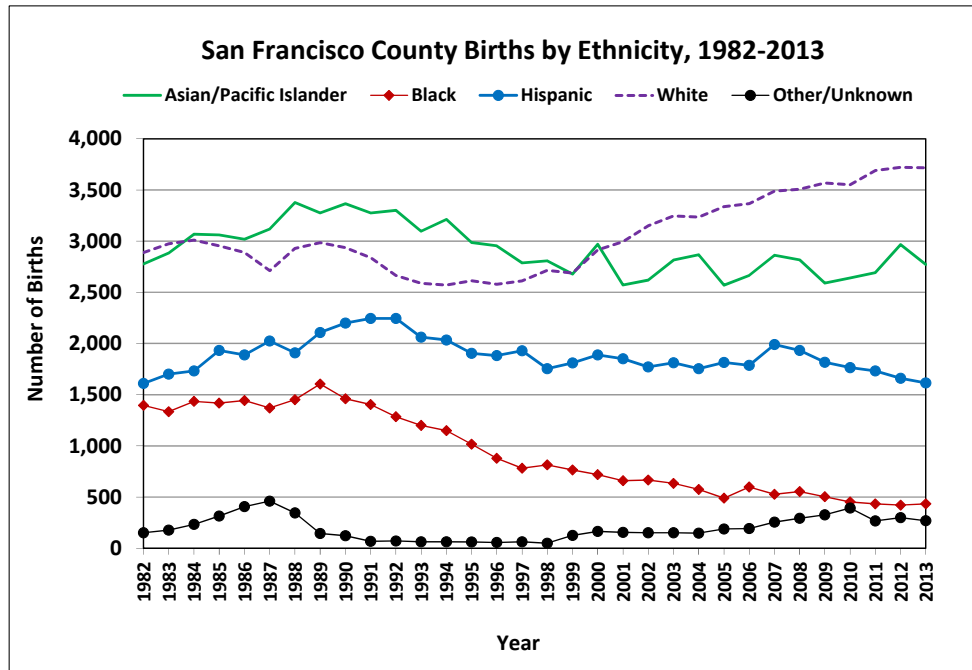
San Francisco County Births by Ethnicity, 1982-2013

Data: California Department of Finance

Key Finding: The number of births to White mothers has increased since 2000, while African American births have declined since 1990.

Table III-2

		Asian/Pacific Islander/Filipino			Black			Hispanic		
Births, Kindergarten Enrollment and K/B Ratios by Ethnic Group										
Yr of Birth	Yr of Enrollment	Births	K	K/B	Births	K	K/B	Births	K	K/B
2002	2007	2,619	1,586	61%	667	529	79%	1,772	1,099	62%
2003	2008	2,814	1,746	62%	635	489	77%	1,812	1,128	62%
2004	2009	2,867	1,851	65%	574	417	73%	1,755	1,199	68%
2005	2010	2,570	1,752	68%	490	425	87%	1,816	1,214	67%
2006	2011	2,665	1,724	65%	599	439	73%	1,786	1,434	80%
2007	2012	2,863	not available		528	not available		1,990	not available	
2008	2013	2,817	1,605	57%	554	318	57%	1,933	1,456	75%
2009	2014	2,590	1,532	59%	503	377	75%	1,818	1,401	77%

		White			Other/ Unknown			Total		
Yr of Birth	Yr of Enrollment	Births	K	K/B	Births	K	K/B	Births	K	K/B
2002	2007	3,151	701	22%	152	292	192%	8,361	4,207	50%
2003	2008	3,246	754	23%	152	337	222%	8,659	4,454	51%
2004	2009	3,235	755	23%	148	619	418%	8,579	4,841	56%
2005	2010	3,338	789	24%	189	484	256%	8,403	4,664	56%
2006	2011	3,366	835	25%	193	356	184%	8,609	4,788	56%
2007	2012	3,489	not available		255	not available		9,125		
2008	2013	3,507	848	24%	293	671	229%	9,104	4,898	54%
2009	2014	3,569	913	26%	327	678	207%	8,807	4,901	56%

Kindergarten Enrollment Forecasts

When using birth data to forecast subsequent kindergarten enrollments, we measured past relationships between births and enrollments. We found that there have usually been about half as many SFUSD kindergartners as births to San Franciscan mothers five years earlier, a result of high out-migration rates and high levels of private school enrollment.

Chart III-13 compares the number of births (the red line) with kindergarten enrollment five years later (the bars). In every year of the 35-year period for which we have kindergarten data, enrollments have been substantially less than the number of births five years earlier. However, the *patterns* have been very similar, especially starting in the mid-1990s when both births and enrollments began dropping, before rising again after 2004. This finding suggests that birth trends have a significant impact on kindergarten enrollments in San Francisco.

Chart III-13

Births and Subsequent Kindergarten Enrollment 1981 - 2014
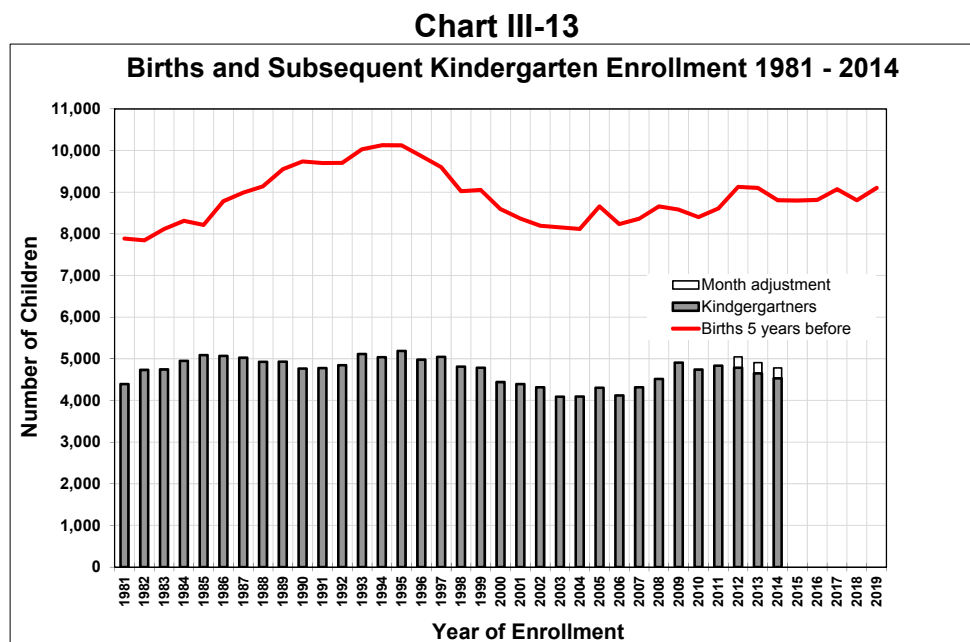
We investigated this more systematically by examining the ratio of the number of kindergartners to the number of births five years earlier (see Chart III-14). Compared with ratios found in other California school districts, the San Francisco kindergarten-to-birth (K/B) ratio is very low (ranging from 0.62 in 1980 to 0.49 in 1985). We have measured ratios as high as 1.50 (150 percent) in suburban districts where families leaving San Francisco are likely to settle. Urban areas, like San Francisco, tend to have low kindergarten-to-birth ratios.

The K/B ratio for San Francisco public schools was remarkably stable between 1990 and 2008. After a decline between 1985 and 1990, ratios varied around 0.51, meaning that kindergarten enrollments were consistently about 51 percent of births five years earlier. However, in 2009, kindergarten enrollments equaled 57 percent of births five years earlier. This was much higher than the historical average, and was quite remarkable, given that for the last twenty years, the K/B ratio varied between 50 and 53 percent. This rise in the K/B ratio is consistent with high grade progressions in fall 2009. Rather than

marking the onset of a new trend, the high K/B ratio of 2009 appears to have been a temporary phenomenon, possibly related to the economic recession, and over the following five years, the ratio has dropped. During the last four years, the K/B ratio (adjusted for the missing month of students) was very stable – averaging 53.3 percent, a bit above the 20-year average.

Chart III-14

Ratio of Kindergarten Enrollment to Birth Five Years Earlier, 1990 - 2016
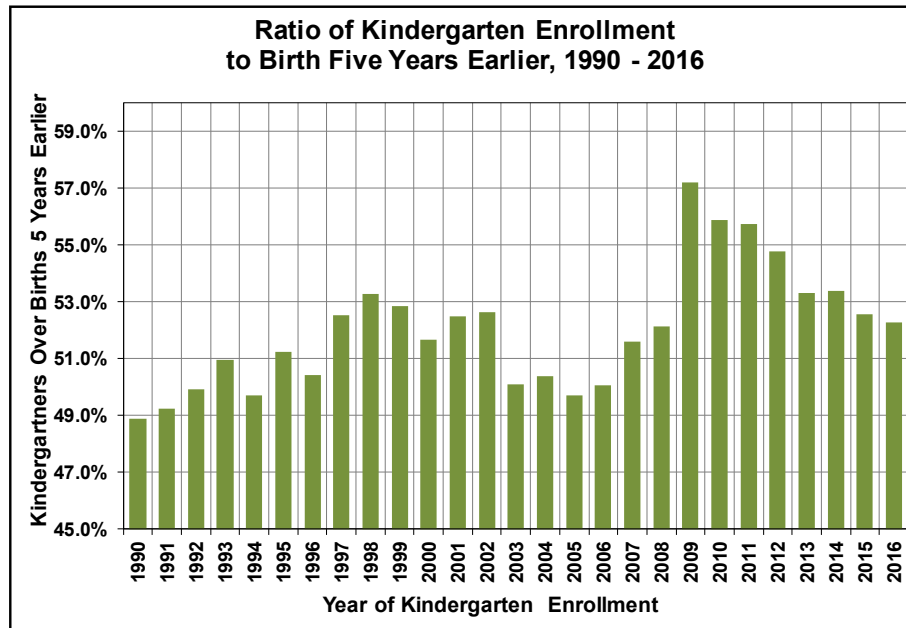
Note: The fall 2012, fall 2013, and fall 2014 cohort enrollments were adjusted upward to simulate a 12-month cohort. Also, the effect of students from new housing post 2010 have been removed.

Kindergarten enrollments from existing housing are forecasted by multiplying the number of births five years earlier by the assumed K/B ratio. Table III-3 shows the result of averaging K/B ratios for various periods of kindergarten forecasts (see also Appendix C). The result is that there is little difference in forecasted numbers, regardless of the assumption used. Also, since the number of births has been stable, not only are the forecasts similar to one another, but the kindergarten enrollments do not change much during the forecast period. In summary, we should expect stable kindergarten enrollments from existing housing during the near future (see Chart III-15).

Table III-3

Kindergarten Enrollment from Existing Housing: Forecast Using Different K/B Ratios					
		Kindergarten/Birth Ratios			
Year of Enrollment (fall)	Births 5 Years Earlier	20-year Avg 52.7%	10-yr Avg 53.9%	5-yr Avg 53.3%	2016 52.3%
2017	9,071	4,784	4,889	4,832	4,743
2018	8,807	4,645	4,747	4,692	4,605
2019	9,102	4,800	4,906	4,849	4,759
2020	8,961	4,726	4,830	4,774	4,685
2021	9,047	4,771	4,876	4,820	4,730

Chart III-15

Forecast of Kindergarten Enrollments from Existing Housing
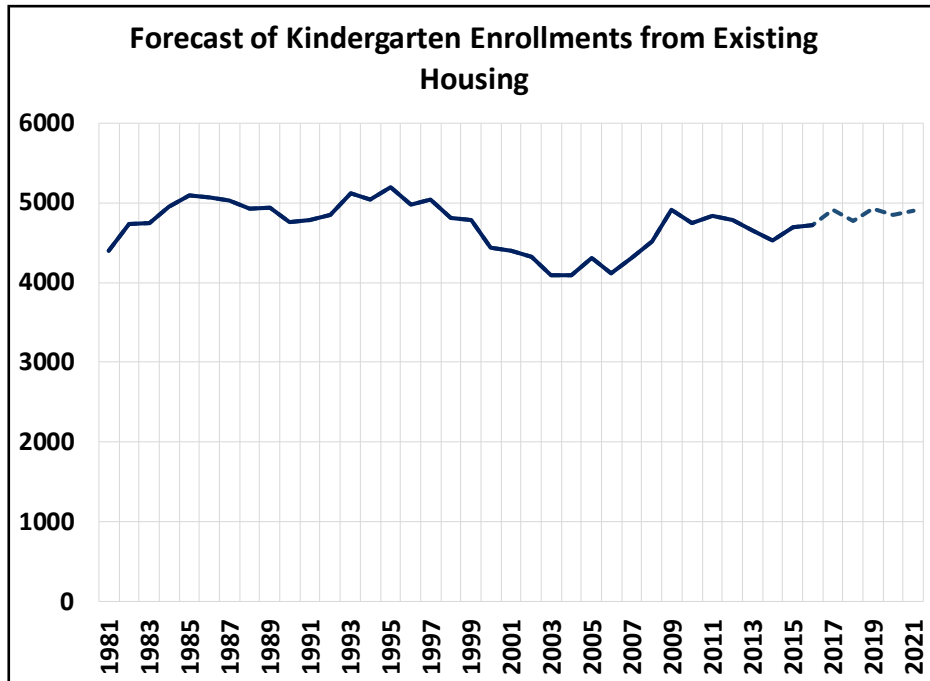
Key Finding: The K/B ratio was anomalously high between 2009 and 2012. The ratio has returned to its historically normal level.

Key Finding: The number of births to San Francisco residents has been stable for many years, suggesting that elementary (followed by middle and high school) enrollments from existing housing will be stable, as well, during the foreseeable future.

Key Finding: We expect kindergarten enrollments from existing housing to be stable for the next several years.

Transitional Kindergarten

In fall 2012, the Transitional Kindergarten program began with the addition of one birth month's worth of students, and each year after that, another month was added. By fall 2014, there were three months' worth of students in the TK program. These are children born after August 31 and before December 1 five years earlier. If all eligible students enrolled in the TK program, then the TK students would equal about 25 percent of the regular kindergarten enrollment (3 months divided by 12 months). However, in fall 2016, TK students were only 8.8 percent of the regular kindergarten cohort. The forecast of TK students from existing housing thus assumes they will equal 8.8 percent of future kindergarten enrollments from existing housing.

Although TK students are officially kindergarten students, it makes the most sense to treat them as a separate grade for analytical purposes, since these students enter regular kindergarten the following year.

Chapter IV: San Francisco's Private School Enrollments

Many San Francisco children attend private rather than public schools. The high rate of private school enrollment means that there is a potential for more growth in SFUSD enrollments if more parents choose public over private schools. This might happen if the City gentrifies and becomes more socio-economically homogeneous, and/or if test scores increase. The District should be aware of this possibility.   Because these enrollments are potentially so important, and because demographic and socio-economic patterns may change, we devote a chapter to private school enrollments.

Private school enrollment rates are much higher in San Francisco (about 25 percent) than statewide (about nine percent). The high rates are not surprising, given San Francisco's urban and cosmopolitan character and the share of its population in the higher socio-economic levels.

As shown in Charts IV-1 and IV-2, during the Great Recession that began in 2008, private school rates declined in the state, but not in San Francisco. This suggests that the historical preference for private schools in San Francisco is unaffected by economic trends.

We conducted a statistical analysis to determine the factors that are most predictive of private school enrollment in San Francisco. Those are: higher incomes, being White, and living in the northwestern part of the City. Note that these factors are present even when we control for the effect of the other variables, that is, even when we control for income, Whites still are more likely to choose private schools than other races. See Appendix D for details.

Our analysis of private school enrollment patterns is based on U.S. Census Bureau surveys of the San Francisco population. We believe these are much more reliable than data from private schools located in San Francisco. There are several data problems in the reports from private schools located in the City, but of most importance is the fact that a large number of private school students live outside the City. These schools are required to provide student addresses to the County Office of Education. About half of the schools do so, and of those that do, we found that 44 percent of high school students live outside the City. Thus, any analysis of enrollment data directly from the private schools would be affected by these out-of-district students, and for this reason we do not use that information.

Census Bureau Surveys on Private School Shares

Since 2006, the Census Bureau has conducted an ongoing nationwide survey called the American Community Survey (ACS). One question asked of respondents is whether their children are enrolled in public or private schools. The ACS summarizes the results and reports them for various geographical units.

Chart IV-1 shows the estimated ACS private school rates for residents of California, while Chart IV-2 shows ACS private school rates for San Francisco residents. Estimated private school rates in the state started declining in 2009 , at the beginning of the Great

Recession. Interestingly, this was not the case in San Francisco, where rates varied over time with no clear trend. Some of the fluctuation results from the fact that San Francisco's population is far smaller than the state's. Nonetheless, there is clearly no trend in San Francisco after 2008. Thus, it appears that San Franciscans' preference for private schools was unaffected by the Great Recession, even though many City residents were affected by the downturn.

Chart IV-1

California K to 12 Private School Enrollment Rates

Chart IV-2

San Francisco K to 12 Private School Enrollment Rates
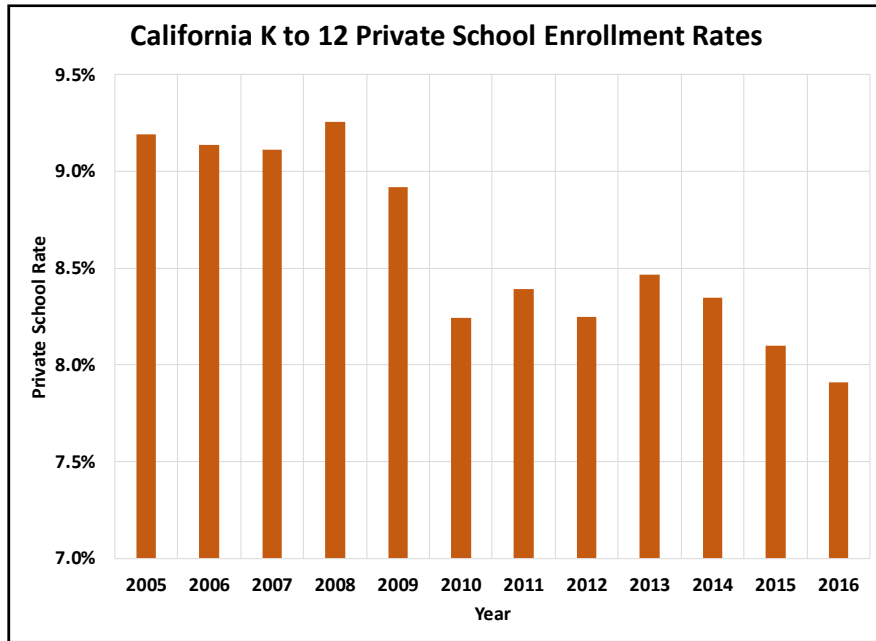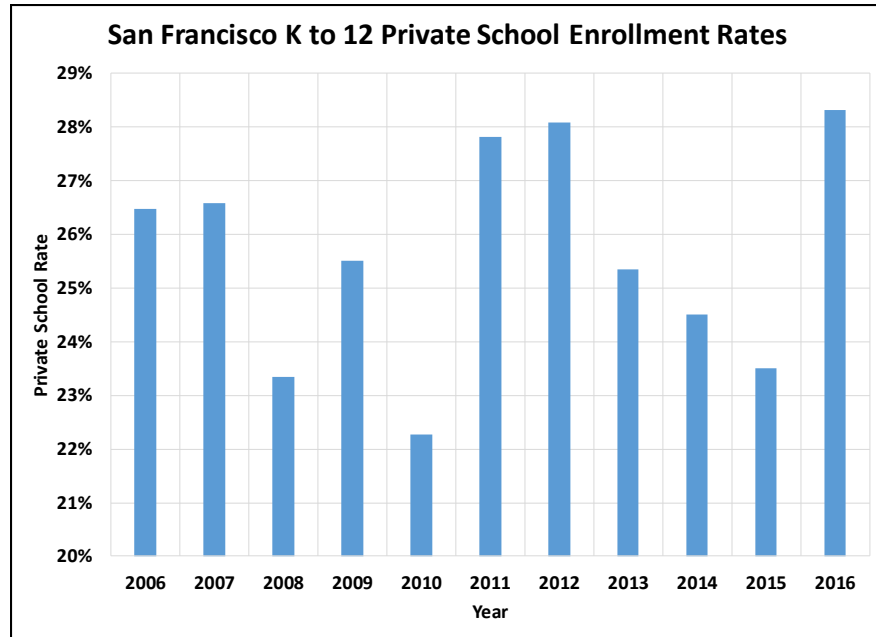
City residents are more likely to send their children to private elementary and middle schools than to private high schools. However, private high school rates have been increasing since 2010. See Chart IV-3.

Chart IV-3

San Francisco Private School Rates by Year and Level
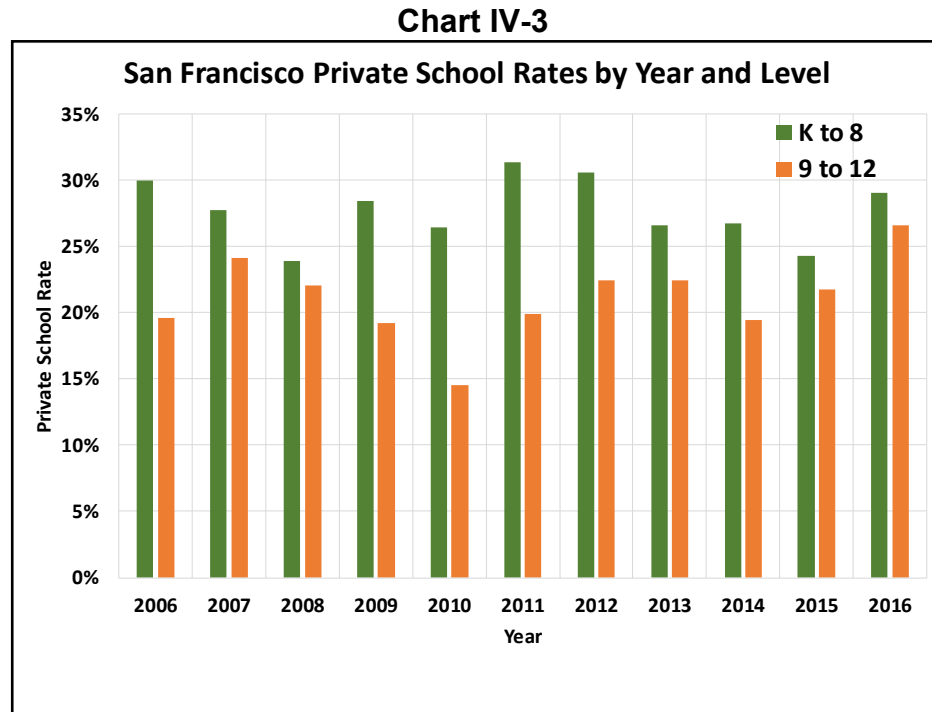
Key Finding: San Francisco's 22-28 percent private school enrollment rate is much higher than California's nine percent. High private school rates are not unusual for urban areas. Even during the Great Recession, San Francisco parents did not reduce their rate of sending children to private schools. Although it may be unlikely, if private school enrollment rates were to fall, SFUSD enrollments could rise.

Key Finding: San Francisco residents are more likely to send their children to private elementary and middle schools than to private high schools. There are more ninth graders in the District's schools than there were eighth graders the year before, and part of this results from students transferring from private to public school.

Key Finding: During the Great Recession, it appears that San Francisco residents did not reduce their rate of sending children to private schools. The U.S. Census surveys show no downward trend in the percentage of children attending private schools after 2008, and neither do private schools located in San Francisco show enrollment declines.

Key Finding: Private school enrollments are important to consider because they represent a potential source of additional SFUSD students if parents decided to send their children to public schools. However, given the robustness of San Francisco's private school enrollments during the Great Recession, it seems unlikely that this pattern will change.

Data Collected from Private Schools by the San Francisco County Office of Education

The County Office of Education collects detailed information about students enrolled in some of the private schools located in San Francisco. About half of private school enrollments are reported to the SFCOE. We have used these data to estimate the percentage of private school students who live inside and outside of the City. Table IV-1 shows the number and share of private school students in fall 2014 by the city of their home address.

Key Finding: Study of a limited sample of students attending private schools located in San Francisco showed that 22 percent of K-8 students and 44 percent of high school students do not have a San Francisco address.

Enrollments in Private Schools Located in San Francisco

About one-quarter of K-8 students and almost one-half of high school students attending San Francisco private schools do not live in the City. With this caveat, we provide enrollments in San Francisco's private schools. Chart IV-4 shows enrollments by school level. Elementary enrollments have been stable since 2008, but middle and especially high school enrollments have increased during the last few years. The increased high school enrollment corresponds to Census data that show a recent increase in the rate of private high school enrollment.

It seems unusual that private high school enrollments have increased and high school enrollments in SFUSD schools are increasing, as well. This suggests that the public school increase is not from a decline in private school enrollment, but rather that more students are staying longer in SFUSD high schools than in the past.

Key Finding: Middle and high school enrollments in San Francisco's private schools have increased during the last five years, while elementary enrollments have been stable.

Table IV-1

	Number				Percent			
	K to 5	6 to 8	9 to 12	K to 12	K to 5	6 to 8	9 to 12	K to 12
SAN FRANCISCO	3,903	2,230	2,138	8,271	78%	78%	56%	71%
DALY CITY	570	312	388	1,270	11%	11%	10%	11%
S SAN FRANCISCO	209	109	239	557	4%	4%	6%	5%
PACIFICA	88	56	158	302	2%	2%	4%	3%
SAN BRUNO	72	35	88	195	1%	1%	2%	2%
SAN MATEO	12	10	87	109	0%	0%	2%	1%
MILLBRAE	32	24	29	85	1%	1%	1%	1%
HILLSBOROUGH	3	1	73	77	0%	0%	2%	1%
BURLINGAME		5	68	73	0%	0%	2%	1%
OAKLAND	14	9	35	58	0%	0%	1%	0%
RICHMOND	15	14	26	55	0%	0%	1%	0%
BRISBANE	18	7	25	50	0%	0%	1%	0%
SAN RAFAEL	4	2	44	50	0%	0%	1%	0%
TIBURON			49	49	0%	0%	1%	0%
MILL VALLEY	3	2	31	36	0%	0%	1%	0%
SAN PABLO	7	4	19	30	0%	0%	0%	0%
HAYWARD	8	9	8	25	0%	0%	0%	0%
NOVATO			24	24	0%	0%	1%	0%
VALLEJO	6	8	8	22	0%	0%	0%	0%
CORTE MADERA			21	21	0%	0%	1%	0%
SAN CARLOS	3		18	21	0%	0%	0%	0%
BELMONT		3	16	19	0%	0%	0%	0%
HALF MOON BAY	2	1	14	17	0%	0%	0%	0%
HERCULES	5	2	8	15	0%	0%	0%	0%
COLMA	6	4	4	14	0%	0%	0%	0%
LARKSPUR			14	14	0%	0%	0%	0%
FOSTER CITY			13	13	0%	0%	0%	0%
KENTFIELD			13	13	0%	0%	0%	0%
ANTIOCH	4	3	5	12	0%	0%	0%	0%
PINOLE	1	3	8	12	0%	0%	0%	0%
ROSS			12	12	0%	0%	0%	0%
SAN LEANDRO	2	3	7	12	0%	0%	0%	0%
(blank)	6	1	5	12	0%	0%	0%	0%
EL SOBRANTE	1	3	7	11	0%	0%	0%	0%
SAN ANSELMO			10	10	0%	0%	0%	0%
Other (less than 10)	29	17	99	145	1%	1%	3%	1%
Total	5,023	2,877	3,811	11,711	100%	100%	100%	100%

Fall 2014 City of Residence of Students Attending Private Schools in San Francisco, for Schools that Reported to SFCOE (about 50% of enrollments reported)

(Data sorted by total K-12 Number)

Chart IV-4

Elementary Enrollments in SF's Private Schools

Middle School Enrollments in SF's Private Schools

High School Enrollments in SF's Private Schools
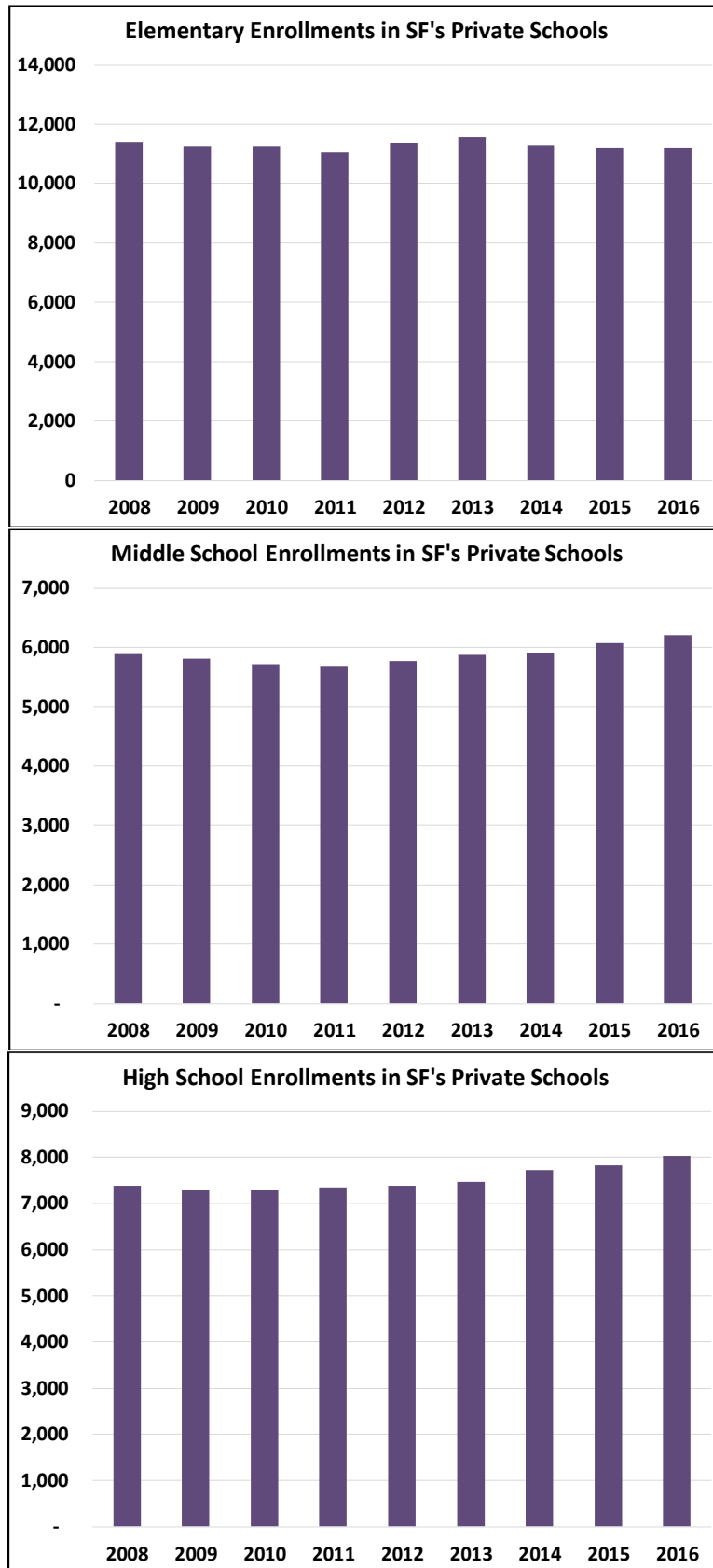
Chapter V: Ethnic Trends in District Enrollment

The District has an ethnically diverse student body. In fall 2016, Asians comprised the largest ethnic share (34 percent), followed by Hispanics[9] (29 percent), Whites (14 percent), African Americans (eight percent), Filipinos (five percent), Native Americans (less than one percent), and nine percent unspecified. See Table V-1 and Chart V-1.

It is difficult to track how student ethnicity has changed over time for a number of reasons.[10] Among them is the fact that, beginning in 2000, parents could classify their children as being of "two or more races." The introduction of the new category meant that we no longer had a consistent set of ethnic categories. By itself, this would not be particularly problematic, but it appears that some students report different ethnic identities over time. One year a student may identify as multi-racial, but another year he/she may report a single-race category (like Hispanic or Asian). Secondly, in 2009, a "not reported" category was added. Also, the number of non-reporting students has varied greatly from year to year and it again appears that students report their ethnicity differently over time. Finally, in 2006, a huge number of students had unreported ethnicities. Any analysis of ethnic changes over time must omit this year.

Even with the data issues, we know there have been dramatic changes in the ethnic and racial composition of public school students since the mid-1980s:

1. There was a large increase in the number of Hispanics, from about 11,500 (1985) to over 16,000 (2016);

2. There was a striking decline in African Americans from nearly 14,000 (1981) to 4,700 (2016);

3. The share of Asians increased until 1999, and then declined;

4. The share of Caucasians exhibited the opposite trend, first declining and then increasing after 2006;

5. The share of Filipinos declined consistently throughout the time period, but this group has always represented a small proportion of the total; and

6. After the introduction of the "Multiple Race" category in 1999, the share of students reporting multiple races increased for about ten years but has remained fairly stable since 2009.

Key Finding: In fall 2016, Asians comprised the largest ethnic group, with 34 percent of the student body, followed by Hispanics (29 percent), Whites (14 percent), African

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[9] We used the term "Hispanic" to indicate students of Hispanic or Latino origin. The Census Bureau uses the term Hispanic, because it is more inclusive than Latino. Filipinos, occasionally considered to be Hispanic because some members of the group have Spanish surnames, are classified separately.

[10] Several years ago, School Board members requested that we investigate the high school grade progressions by ethnic group. Unfortunately, this was not possible because of data problems. Because of the new multiracial and non-reporting categories and students' switching between categories, it was not possible to construct a database of students, by ethnicity, for analyzing changes in grade progressions over time.

Americans (8 percent), Filipinos (five percent) and multiple races or unspecified (nine percent).

Key Finding: Since 2000, inconsistent reporting of SFUSD students' ethnicity makes historical comparisons less certain. Nonetheless, we know that the share of students of Hispanic and multiple race ancestry has increased while the share of African American students has declined. The share of non-Hispanic White students has varied over time and has increased in recent years.

Table V-1

Ethnic Distribution of San Francisco County Public School Students (SFUSD, SFCOE, Charters), 1993-2016

Year	African American	Asian	Caucasian	Filipino	Hispanic	Native American	Pacific Islander	Multiple Race	Not Reported	Total	Multiple Race and Not Reported, Combined
1993	18%	39%	14%	8%	20%	1%	1%	0%	0%	100%	0%
1994	18%	39%	13%	8%	20%	1%	1%	0%	0%	100%	0%
1995	18%	40%	13%	7%	21%	1%	1%	0%	0%	100%	0%
1996	17%	40%	13%	7%	21%	1%	1%	0%	0%	100%	0%
1997	16%	41%	13%	7%	21%	1%	1%	0%	0%	100%	0%
1998	16%	42%	12%	7%	21%	1%	1%	0%	0%	100%	0%
1999	16%	42%	12%	7%	22%	1%	1%	0%	0%	100%	0%
2000	16%	42%	11%	7%	22%	1%	1%	1%	0%	100%	1%
2001	16%	42%	11%	7%	22%	1%	1%	2%	0%	100%	2%
2002	15%	43%	10%	6%	22%	1%	1%	2%	0%	100%	2%
2003	15%	43%	10%	6%	22%	1%	1%	3%	0%	100%	3%
2004	14%	43%	9%	6%	22%	1%	1%	3%	0%	100%	3%
2005	14%	43%	9%	6%	22%	1%	1%	4%	0%	100%	4%
2006	Not available due to data errors										
2007	12%	41%	10%	6%	23%	1%	1%	5%	0%	100%	5%
2008	13%	41%	11%	6%	24%	1%	1%	5%	0%	100%	5%
2009	11%	40%	11%	5%	24%	0%	1%	2%	5%	100%	7%
2010	11%	39%	11%	5%	25%	0%	1%	3%	4%	100%	7%
2011	11%	38%	12%	5%	25%	1%	1%	3%	4%	100%	7%
2012	10%	34%	11%	5%	26%	0%	2%	3%	10%	100%	12%
2013	10%	36%	13%	5%	27%	0%	2%	3%	4%	100%	7%
2014	10%	35%	13%	5%	29%	0%	1%	3%	4%	100%	7%
2015	9%	35%	14%	5%	28%	0%	1%	4%	4%	100%	7%
2016	8%	34%	14%	5%	29%	0%	1%	4%	5%	100%	9%

Source: California Department of Education website

Chart V-1

1994

- African American — 18%
- Asian — 39%
- Caucasian — 13%
- Filipino — 8%
- Hispanic — 20%
- Native American — 1%
- Pacific Islander — 1%
- Multiple Race
- Not Reported

2016

- African American — 8%
- Asian — 34%
- Caucasian — 14%
- Filipino — 5%
- Hispanic — 29%
- Native American — 0%
- Pacific Islander — 1%
- Multiple Race — 4%
- Not Reported — 5%
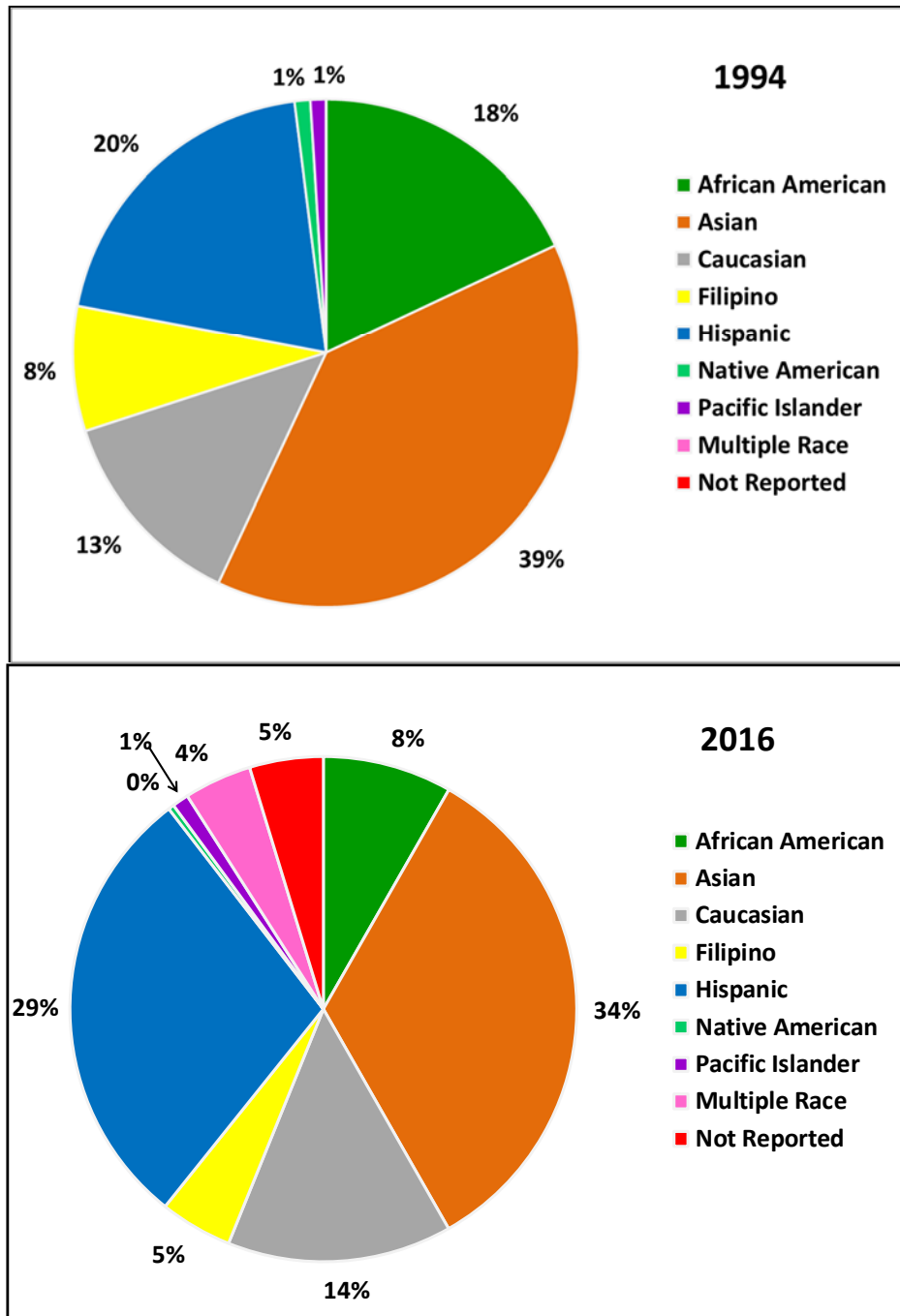
Table V-2 compares the ethnic distribution of San Francisco's child population with that of the public school students. The Census populations in 1980, 1990, 2000, and 2010 are compared with CBEDS enrollments in all San Francisco schools. There are several reasons why the ethnic distribution of the county's population does not match the ethnic distribution of the student population:

1. The Census population is reported for those aged 5-19, whereas the student population is typically aged 5-17. The Census counts should always be greater than the student counts.

2. Ethnicity is self-reported for both the Census and school enrollments, and people may respond differently on the Census than they do for the schools, particularly those who are in the multi-race and Hispanic categories.

3. Private school students are included in the Census counts, but not in the public school enrollment records.

4. Out-of-district students are included in school enrollments but not in the Census numbers.

5. Students who drop out or graduate early are included in the Census, but not in the student counts.

6. The Census may under- or over-count the population, particularly of certain subgroups.

Despite all the differences between the Census and school enrollment data, there are some notable findings:

- The Census counts show an overall decline in the City's child population, from 103,644 (1980) to 89,367 (2010). This trend was not mirrored in school enrollments during the 1980s and 1990s, but SFUSD experienced declines in the 2000s.

- The Census count of African American children declined substantially, from 20,401 (1980) to 7,096 (2010). This decline parallels the change in African American public school enrollments. Clearly, the African American student population has declined in the District because there are fewer African Americans in the community.

- The White Census population declined during the 1980s and has remained fairly constant since then.

- The White child population has the lowest ratio of public school students per population: about 30 percent. This means, among other things, that White births are the least likely to result in subsequent kindergarten enrollments.

- The Hispanic Census population counts remained fairly stable between 1980 and 2010, while the Hispanic student population remained fairly stable after 1990.

- A relatively small share of the Hispanic child population attends public schools, though the share is increasing.

- For Asians, Filipinos, and Pacific Islanders, trends in student enrollments are similar to trends in the Census population counts. Numbers increased during the 1980s, remained constant during the 1990s, and declined slightly during the 2000s.

Table V-2

Census Populations Aged 5 to 19 Compared to K-12 County-wide CBEDS Enrollments						
	Asian, Filipino, and P.I.	African American	Hispanic	American Indian	White	Other	Total
1981 CBEDS	24,408	13,948	9,880	n.a.	9,880	0	58,116
1980 Census	30,602	20,401	19,358	612	32,672	0	103,644
Students/Population	80%	68%	51%		30%		56%
1990 CBEDS	30,097	9,148	12,992	363	6,122	0	58,722
1990 Census	37,996	15,485	20,194	516	22,873	0	97,064
Students/Population	79%	59%	64%	70%	27%		60%
2000 CBEDS	30,563	9,957	13,380	396	7,023	447	61,766
2000 Census	37,987	11,449	20,960	212	21,328	3,768	95,704
Students/Population	80%	87%	64%	187%	33%	12%	65%
2010 CBEDS	25,891	6,389	13,960	272	6,383	3,863	56,758
2010 Census	34,172	7,096	20,449	168	21,374	6,108	89,367
Students/Population	76%	90%	68%	162%	30%	63%	64%

Appendix A: Defining Student Enrollments

Our forecast is based on student counts for all of San Francisco County's public schools, including San Francisco Unified schools, San Francisco County Office of Education schools, and all charter schools.

The main database used for enrollment analysis and forecasting reports student enrollment data as reported by all schools each fall, initially through the California Basic Educational Data System (CBEDS) and more recently through the California Longitudinal Pupil Achievement Data System (CALPADS). CBEDS/CALPADS data are available since 1981 and are considered the official counts of student enrollments.

To ensure a consistent data series, we combined enrollments in San Francisco Unified School District (SFUSD) schools with those in programs administered through the County of San Francisco (SFCC/SFCOE). Over the past three decades, some of these programs appear to have moved back and forth between SFUSD and SFCC for CBEDS/CALPADS reporting purposes.[11]

Charter schools are included among SFUSD schools, including Edison Charter Academy, which has been reported as being either a SFUSD or a State-sponsored charter school. Enrollments in Five Keys schools have been unevenly reported, so they are excluded from our database.[12]

Table A-1 compares student counts in SFUSD non-charter schools, SFUSD charter schools, and SFCC/SFCOE schools between fall 1981 and fall 2016. The total number of students for San Francisco County public schools in Table A-1 (last column) is the basis for our forecast.[13] Chart A-1 presents total enrollment data that we have used in this report (36 years of data).

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[11] For example, from 1981 through 1983, enrollments in Andrew Jackson Shelter School were reported to CBEDS under SFUSD, but from 1984 through 1986 they were reported under SFCC (now SFCOE). Enrollments in alternative high schools such as Bay High, Hilltop High, and San Francisco Community High were reported as SFUSD until the early 1990s but today are reported under the broad SFCC program category of "Alternative/Opportunity." Since the early 1990s, SFCC program enrollments are reported to CBEDS/CALPADS not by individual program but as totals under three broad categories: Alternative/Opportunity, Juvenile Hall/Community, and Special Education. Edison Charter Academy is a special case: reported to CBEDS under SFUSD until 2000, it has since 2001 been reported separately from both SFUSD and SFCOE, though it is included among SFUSD charter schools in our table.

[12] Five Keys schools enroll students in ninth through twelfth grades. These schools are sponsored by the Sherriff's Office and students are housed in jail facilities. We exclude these students primarily because the enrollments reported to CBEDS/CALPADS fluctuate widely. For example, seven students were reported in 2009, 549 in 2008, and 642 in 2010. Note that these students do not use SFUSD's facilities, since the program is housed in jail facilities.

[13] Table A-1 and all subsequent enrollment analyses and forecasts exclude students from the Five Keys program.

Table A-1

	San Francisco Public School Enrollment			
	In SFUSD Schools	In SFCC/SFCOE	In SBE and Other	
Year	(Excludes Five Keys*)	Schools	Schools	SF County Total
1981	58,115	0		58,115
1982	60,310	0		60,310
1983	61,413	0		61,413
1984	62,957	394		63,351
1985	64,508	395		64,903
1986	64,786	390		65,176
1987	63,881	406		64,287
1988	62,528	785		63,313
1989	61,935	611		62,546
1990	61,688	548		62,236
1991	61,689	827		62,516
1992	61,882	633		62,515
1993	61,631	948		62,579
1994	61,340	953		62,293
1995	61,889	941		62,830
1996	61,174	975		62,149
1997	61,007	943		61,950
1998	61,042	1,059		62,101
1999	60,896	1,145		62,041
2000	59,979	1,787		61,766
2001	59,039	1,855		60,894
2002	58,686	1,305		59,991
2003	58,204	1,210		59,414
2004	57,330	1,179		58,509
2005	56,440	1,040		57,480
2006	55,607	698		56,305
2007	55,303	680		55,983
2008	55,086	819		55,905
2009	55,601	691		56,292
2010	55,525	591		56,116
2011	55,756	561		56,317
2012	56,164	638		56,802
2013	56,522	499		57,021
2014	56,386	398	947	57,731
2015	56,395	432	462	57,289
2016	56,916	362	253	57,531
*Excludes enrollments from Five Keys schools due to unstable enrollment reporting.				

Source: California Basic Educational Data System (CBEDS), accessed January, 2018.

Chart A-1

San Francisco K-12 Public School Enrollment, 1981 - 2016
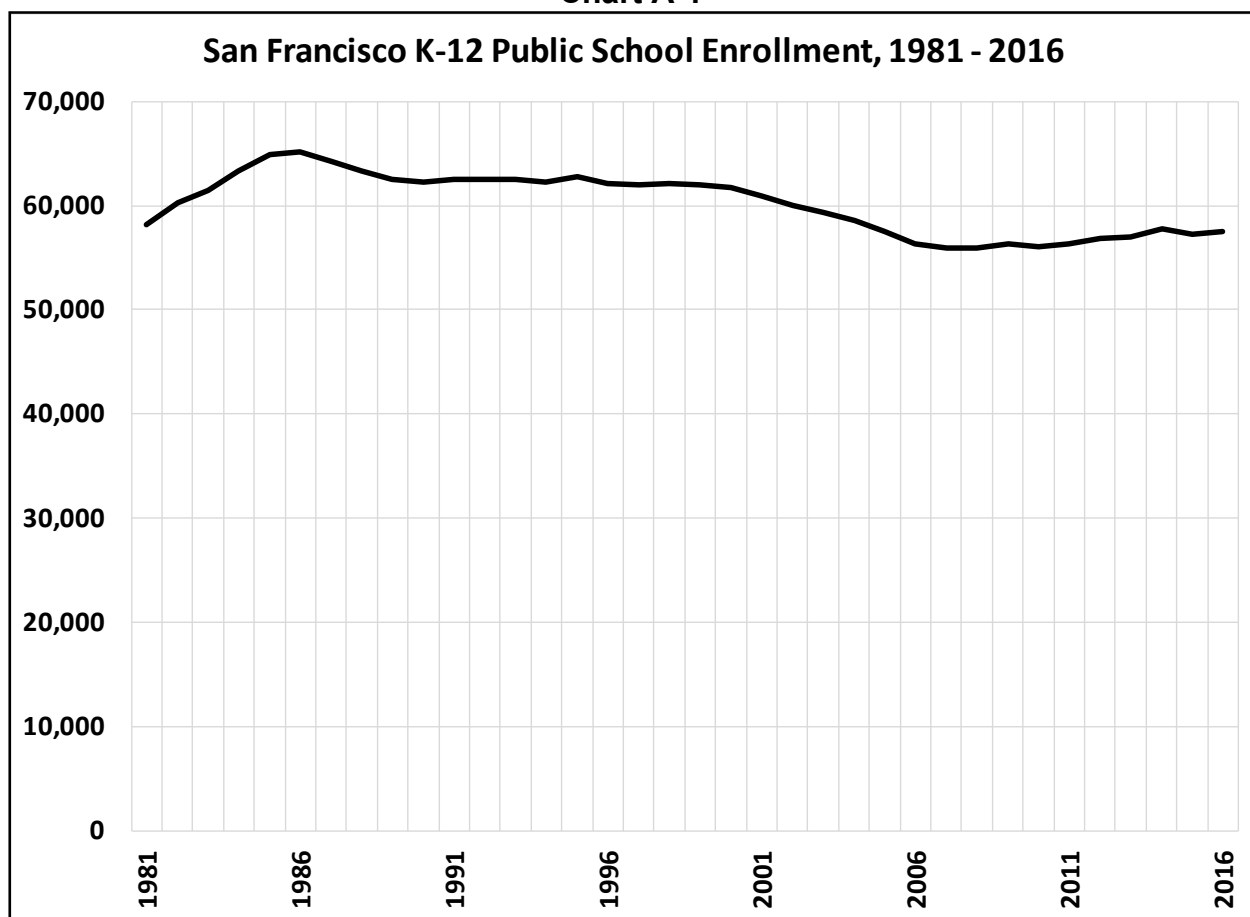
Appendix B: Data on Student Yields in Existing Housing

To help guide our yield assumptions in the face of many uncertainties, we have studied student yields in the City's existing housing. We have studied:

- All housing built since 2010;
- All housing built in Mission Bay since 1995;
- Parcmerced housing (towers and garden-style apartments);
- UCSF campus housing;
- All public housing developments;
- Selected areas of Visitacion Valley;
- Larger condominium complexes;
- Larger apartment complexes.

Each group is discussed below.

Housing built since 2010[14]

Since 2010, 18,763 housing units have been built in developments with 20 units or more. Table B-1 summarizes the student yields. Our measurements show that new stand alone affordable housing (all units are below-market-rate) has the highest public school student yields, with .43 students per unit. This means for every 100 units, expect 43 students. Other housing, even inclusionary housing, has very low yields.

Table B-1

Student Yields in New Housing (Built 2010-2016), Fall 2016 Enrollments				
		# Affordable		2016 SFUSD
	# Units	Units	% Affordable	Students	2016 Yield
Stand Alone	1060	1056	100%	461	0.43
Inclusionary	7683	1064	14%	204	0.03
Market rate	8349	0	0%	52	0.01
Special Housing	1671	1490	89%	21	0.01
Total	18763	3610	19%	738	0.04

Table B-2 shows each individual development for which we measured yields. Map B-1 presents the geographical distribution of the recently-built housing, and Map B-2 shows just the northeast area of the City, where much of the new housing is located.

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[14] San Francisco City Planner Teresa Ojeda (Information, Analysis and Reporting) provided a database with information for all new housing built in San Francisco since 2010. We studied all developments with 20 or more units.

Map B-1

San Francisco Unified School District
New Housing Developments 2010-2016
by Number of Units

Map Layers
Planning Neighborhood
Street

New Housing Type
- Stand-Alone (all affordable)
- Inclusionary
- Non-Inclusionary
- Special

Number of Units
750   407.5   7.5

0   .5   1   1.5
Miles

Lapkoff & Gobalet Demographic Research, Inc.   2/1/18
www.Demographers.com

Map B-2

San Francisco Unified School District
New Housing Developments 2010-2016
by Number of Units (Northeast Detail)

Map Layers
Planning Neighborhood
Street

New Housing Type
■ Stand-Alone (all affordable)
□ Inclusionary
□ Non-Inclusionary
□ Special

Number of Units
750   407.5   7.5

0   .2   .4   .6
Miles

Marina
Russian Hill
North Beach
Chinatown
Nob Hill
Pacific Heights
Financial District
Presidio Heights
Downtown/Civic Ctr
Western Addition
Inner Richmond
South of Market
Haight Ashbury
Golden Gate Park
Castro/Upper Market
Mission
Potrero Hill

Vela
2559 Van Ness
Broadway-Sansome
Luxe
1645 Pacific Ave
1591 Pacific Ave
Marlow
Brocklebank Apts
The Pacific
1280 Pine
1461 Pine St Apts
839 Leavenworth
832 Sutter
Rockwell
Blanc
754 Post St
Etta Apts
Millennium Tower
The Infinity Towers
280 Beale St
Solaire
Lumina
333 Fremont
340 Fremont
399 Fremont
Rincon Green
The SF Shipyard
Jasper
One Rincon Hill
Rene Cazenave Apts
The District
2130 Post St
220 Golden Gate Ave
The Wilson
Mosso Apts
400 Clementina
650 2nd St Lofts
72 Townsend
Tabernacle Vista Apts
Madonna Res
Vera Haile Sr Hsng
Stevenson Lofts
Coronet Apts
400 Anza
Willie B Kennedy Sr Ctr
M.H Rogers Sr Cmty
100 Van Ness
870 Harrison
246 Ritch
Mosso Apts
Arc Light Co.
Fillmore Park
Richardson Apts
SOMA Grand
CATS
378 5th St
Zygmunt Arendt House
400 Grove
The Civic
Ava
Trinity Place
Westbrook Plaza
Mercy Housing 1180 4th St
Linden Hayes Condos
Edity Witt Sr Cmty
Channel Apts
450 Hayes
77 Van Ness
Nema
Olume
Venue
Avalon Hayes Vly
1 Franklin
Panoramic
Eviva
Azure
MB360
350 Laguna
Octavia Ct
1400 Mission
L Seven
Arden
Madrone
229 Haight
8 Octavia
MB360 Phase 2
399 Steiner
Alchemy
1600 Market
Venn Apts
Veterans Cmns
One Henry Adams
Linea
Casa Quezada
Potrero 1010
35 Dolores
299 Valencia St
2175 Market St
Vara Apts
M@1875
400 S Van Ness
1001 Seventeenth
2200 Market
Rowan
Onyx 1   Onyx 2
480 Potrero

Arlington Res-Homeless

Table B-2 (sorted by yield)

K-12 Student Yields, Sorted by Neighborhood and Yield (highest to lowest yield)											
YSA Name	Yr Built	# Units	# Aff Units	% Affordable	Planning Neighborhood	Type	2013	2014	2015	2016	2016 Yield
Stand Alone Housing											
Mercy Housing at 1180 4th St	2014	150	150	100%	South of Market	apt		78	97	121	0.81
Bayview Hill Gardens	2013	73	73	100%	Bayview	apt	7	33	38	50	0.68
Westbrook Plaza	2010	49	49	100%	South of Market	apt	27	28	29	28	0.57
Hunters View-Phase I	2014	107	107	100%	Bayview	TH	18	42	47	54	0.50
Candlestick Heights	2011 & 2014	198	198	100%	Bayview	apt	7	50	62	94	0.47
Broadway-Sansome Apts	2015	75	74	99%	Financial District	apt			19	34	0.45
Fillmore Park	2012	32	32	100%	Western Addition	TH	13	12	13	13	0.41
Tabernacle Vista Apartments	2010	21	21	100%	Western Addition	apt	4	6	6	7	0.33
1600 Market	2014	24	23	96%	Downtown/Civic Center	apt		8	8	6	0.25
280 Beale St Apts	2016	70	69	99%	Financial District	apt			9	16	0.23
Mercy Housing 1100 Ocean Ave	2015	71	70	99%	West of Twin Peaks	apt			16	15	0.21
1400 Mission	2015	190	190	100%	South of Market	apt				23	0.12
Subtotal		1060	1056				76	257	344	461	0.43
Special Housing											
Octavia Court	2010	15	15	100%	Western Addition	special	3	6	5	5	0.33
Vera Haile Senior Housing	2014	90	90	100%	Downtown/Civic Center	special				3	0.03
374 & 378 5th St Apts	2013	44	44	100%	South of Market	special				1	0.02
Mary Helen Rogers Senior Commur	2013	100	100	100%	Downtown/Civic Center	special	2	4	4	2	0.02
Madonna Residence	2012	51	51	100%	Downtown/Civic Center	special	2	1	1	1	0.02
Rene Cazenave Apts	2013	120	120	100%	South of Market	special				2	0.02
Civic Center Residence	2010	210	210	100%	Downtown/Civic Center	special	2			1	0.00
Richardson Apts	2011	120	120	100%	Downtown/Civic Center	special					0.00
Veterans Commons	2012	76	76	100%	South of Market	special					0.00
Casa Quezada	2011	52	52	100%	Mission	special			1		0.00
Armstrong Place Senior Housing	2010	116	115	99%	Bayview	special		2			0.00
Edith Witt Senior Community	2010	107	106	99%	South of Market	special					0.00
Willie B Kennedy Senior Center	2016	98	97	99%	Western Addition	special					0.00
The Zygmunt Arendt House	2010	47	46	98%	Western Addition	special					0.00
CATS - A Woman's Place	2012	55	25	45%	South of Market	special					0.00
220 Golden Gate Ave	2013	174	71	41%	Downtown/Civic Center	special					0.00
Casa Melissa Apts	2014	46	2	4%	North Beach	special	1	1	1	1	0.02
Coronet Affordable Apts	2010	150	150	100%	Inner Richmond	Senior	3	2	3	5	0.03
Subtotal		1671	1490				13	16	15	21	0.01

Table B-2 (sorted by yield), continued

YSA Name	Yr Built	# Units	# Aff Units	% Affordable	Planning Neighborhood	Type	2013	2014	2015	2016	2016 Yield
Inclusionary Housing (typically 10-20% affordable)											
Candlestick Cove THs	2010-2012	150	15	10%	Bayview	TH	10	16	20	24	0.16
Arc Light Co.	2012	94	19	20%	South of Market	apt	5	6	6	9	0.10
Potrero Launch	2012	196	39	20%	Potrero Hill	apt	10	12	11	16	0.08
Vara Apts	2013	202	40	20%	Mission	apt	3	10	10	16	0.08
Avalon Ocean Ave	2012	173	26	15%	West of Twin Peaks	apt	11	11	8	13	0.08
Millwheel South Condos	2012	32	4	13%	Potrero Hill	condo	3	3	1	2	0.06
The Gantry Apts	2014	105	18	17%	Potrero Hill	apt		3	7	6	0.06
400 S Van Ness Ave	2014	40	7	18%	Mission	apt			2	2	0.05
5800 3rd St	2010	239	23	10%	Bayview	condo	6	7	6	10	0.04
Marlow	2014	98	15	15%	Nob Hill	condo		5	4	4	0.04
Mosso Apts 400 Clementina	2014	182	27	15%	South of Market	apt		5	6	7	0.04
Ava	2014	273	33	12%	South of Market	apt		8	8	10	0.04
2175 Market	2014	88	18	20%	Castro/Upper Market	apt		3	4	3	0.03
Mosso Apts	2014	282	40	14%	South of Market	apt		7	7	9	0.03
100 Van Ness	2016	400	48	12%	Downtown/Civic Center	apt			7	12	0.03
Venn Apts	2013	113	14	12%	Western Addition	apt		2	2	3	0.03
Trinity Place	2011	718	75	10%	South of Market	apt	17	19	19	19	0.03
Millwheel North Condos	2014	39	5	13%	Potrero Hill	condo			1	1	0.03
299 Valencia St	2012	40	4	10%	Mission	apt	1	1	1	1	0.03
SOMA Grand	2010	244	29	12%	South of Market	condo	10	10	7	6	0.02
Rincon Green	2013	326	50	15%	South of Market	apt	1	4	5	7	0.02
The Civic	2016	162	19	12%	Downtown/Civic Center	apt				3	0.02
Nema	2014	754	90	12%	South of Market	apt		11	10	13	0.02
Potrero 1010	2016	393	91	23%	South of Market	apt				6	0.02
The Wilson	2014	66	7	11%	South of Market	apt		1	1	1	0.02
Madrone at Mission Bay by BOSA	2012	329	27	8%	South of Market	condo			1	1	0.00
Alchemy by Alta	2016	191	50	26%	Western Addition	apt					0.00
Eviva Mission Bay	2016	129	26	20%	South of Market	apt					0.00
1001 Seventeenth	2016	26	5	19%	Potrero Hill	condo					0.00
Rowan	2016	70	11	16%	Mission	apt					0.00
Mission @ 1875	2015	39	6	15%	Mission	apt					0.00
870 Harrison	2015	26	4	15%	South of Market	condo					0.00
L Seven	2016	408	62	15%	South of Market	apt					0.00
Stevenson Lofts	2015	60	9	15%	South of Market	apt					0.00
480 Potrero	2016	77	11	14%	Mission	apt					0.00
8 Octavia St	2014	49	7	14%	Western Addition	apt					0.00
1645 Pacific Ave Condos	2014	38	5	13%	Nob Hill	condo		1	1		0.00
77 Van Ness Ave Apts	2010	48	6	13%	Downtown/Civic Center	condo					0.00
450 Hayes	2016	41	5	12%	Western Addition	condo					0.00
Rockwell	2016	262	31	12%	Western Addition	apt					0.00
400 Grove	2015	34	4	12%	Western Addition	condo					0.00
Blanc	2014	35	4	11%	Downtown/Civic Center	condo		1	1		0.00
1 Franklin	2016	35	4	11%	Downtown/Civic Center	condo					0.00
1181 Ocean Ave	2016	27	3	11%	Ocean View	apt					0.00
35 Dolores	2015	37	4	11%	Mission	condo					0.00
832 Sutter	2016	20	2	10%	Downtown/Civic Center	apt					0.00
72 Townsend	2016	74	7	9%	South of Market	condo					0.00
Olume	2016	121	11	9%	South of Market	apt					0.00
Onyx at the Park 1	2015	20	1	5%	Potrero Hill	condo					0.00
1430 Larkin St	2014	21	1	5%	Nob Hill	apt					0.00
Onyx at the Park 2	2016	21	1	5%	Potrero Hill	condo					0.00
The Mill Building	2011	36	1	3%	Mission	condo	2	2			0.00
Subtotal		7683	1064				79	148	156	204	0.03

Table B-2 (sorted by yield), continued

YSA Name	Yr Built	# Units	# Aff Units	% Affordable	Planning Neighborhood	Type	2013	2014	2015	2016	2016 Yield
Market Rate Housing											
285 Turk St Apts	2011	40	0	0%	Downtown/Civic Center	apt	3	12	11	8	0.20
400 Anza	2016	21	0	0%	Inner Richmond	apt	2	2	2	2	0.10
V20	2015	18	0	0%	Mission	condo				1	0.06
Summit 800	2014	182		0%	Lakeshore	SFU			2	9	0.05
2200 Market	2016	22	0	0%	Castro/Upper Market	condo		1	1	1	0.05
1000 Powell St Apts	2014	48	0	0%	Chinatown	apt	2	2	2	2	0.04
839 Leavenworth	2016	51	0	0%	Downtown/Civic Center	apt	3	3	2	2	0.04
2130 Post Street	2013	71	0	0%	Western Addition	apt				2	0.03
Avalon Hayes Valley Apartments	2016	182	0	0%	Western Addition	apt				3	0.02
The Infinity Towers	2010	650	0	0%	South of Market	condo	7	9	5	7	0.01
MB360 Phase 2	2016	188	0	0%	South of Market	apt				2	0.01
Channel Apts	2014	315	0	0%	South of Market	apt			3	3	0.01
Etta Apts	2013	107	0	0%	Downtown/Civic Center	apt				1	0.01
399 Fremont St	2016	452		0%	South of Market	apt				3	0.01
One Rincon Hill	2010 & 2014	702	0	0%	South of Market	condo	1	1	2	3	0.00
Arden	2016	267	0	0%	South of Market	apt				1	0.00
Azure	2015	273	0	0%	South of Market	apt				1	0.00
340 Fremont	2016	348	0	0%	South of Market	apt				1	0.00
MB360	2015	283	unknown		South of Market	apt					0.00
The SF Shipyard 1 Hawthorne	2010	135	0	0%	Financial District	apt					0.00
Presidio Landmark Apts	2010	154	0	0%	Presidio	apt		2			0.00
The Lynden Hayes Condos	2010	32	0	0%	Downtown/Civic Center	condo					0.00
650 2nd Street Lofts	2012	24	0	0%	South of Market	condo					0.00
The Carlisle (retirement home)	2012	109	0	0%	Western Addition	special					0.00
1461 Plne St Apts	2013	35	0	0%	Nob Hill	apt					0.00
1591 Pacific Ave	2013	41	0	0%	Nob Hill	apt					0.00
Arlington Residences - Homeless	2013	154	0	0%	Downtown/Civic Center	special					0.00
Millennium Tower	2014	419	0	0%	Financial District	apt					0.00
2559 Van Ness	2014	27	0	0%	Marina	apt					0.00
Brocklebank Apartments	2014	51	0	0%	Nob Hill	apt					0.00
246 Ritch at South Park	2014	19	0	0%	South of Market	apt					0.00
333 Fremont	2014	82	0	0%	South of Market	apt					0.00
Venue Apts	2014	147	0	0%	South of Market	apt					0.00
Linea	2014	115	0	0%	Western Addition	apt					0.00
Summer of Love Residences/Pensic	2014	50	0	0%	Downtown/Civic Center	special					0.00
250 Kearny St (for homeless Vets)	2014	136	0	0%	Financial District	special					0.00
Vida	2015	114	0	0%	Mission	apt					0.00
Panoramic Residences	2015	160	0	0%	South of Market	special					0.00
754 Post	2016	22	0	0%	Downtown/Civic Center	apt					0.00
1391 8th Ave	2016	18	0	0%	Inner Sunset	apt					0.00
Vela	2016	21	0	0%	Marina	apt					0.00
1280 Pine	2016	25	0	0%	Nob Hill	apt					0.00
Jasper	2016	320	0	0%	South of Market	apt					0.00
One Henry Adams	2016	241	0	0%	South of Market	apt					0.00
229 Haight	2016	23	0	0%	Western Addition	apt					0.00
350 Laguna	2016	25	0	0%	Western Addition	apt					0.00
399 Steiner	2016	21	0	0%	Western Addition	apt					0.00
Luxe	2016	34	0	0%	Pacific Heights	condo					0.00
The Pacific	2016	77	0	0%	Pacific Heights	condo					0.00
Lumina	2016	681	0	0%	South of Market	condo					0.00
The District at Lower Pacific Heights	2016	81	0	0%	Western Addition	condo					0.00
Ashton Apts	2010	110	0	0%	Bayview	apt	4	4	4		0.00
3500 Nineteenth	2013	17	0	0%	Mission	TH			3		0.00
Solaire	2016	409	0	0%	Financial District	apt					0.00
Subtotal		8349	0				22	36	37	52	0.01

Mission Bay Housing

In 1998, the Mission Bay North and South Redevelopment Project Areas were established. More than 5,000 units have been built so far, including 617 stand alone, affordable family units. Table B-3 summarizes the student yield data, while Table B-4 shows information for each development.

The stand alone units have the highest student yield, averaging .41. As shown on Table B-4, the single stand alone condominium complex (Mission Walk) has a much lower yield than the rental buildings. These condos have a yield of .22, compared to .81 in Mercy Housing and .50 in Rich-Sorro Commons.

The inclusionary housing contains few SFUSD students. There are two condominium developments and three apartment complexes with inclusionary housing. Few students live in the condos and apartments, and yields are quite low.

The non-inclusionary housing contains virtually no students.

Although relatively few students currently live in Mission Bay, we expect many more in the future. Most of the additional housing will be stand alone units, most of which will be family-oriented. Details were discussed in the future housing section (Chapter II).

Table B-3

Student Yield Summary for Mission Bay Housing					
	# Units	# Affordable Units	% Affordable	2016 SFUSD Students	2016 Yield
Stand Alone	617	617	100%	253	0.41
Inclusionary	1,616	119	7%	26	0.02
Non-inclusionary Market Rate	2,683	0	0%	22	0.01
Special Housing	570	570	100%	13	0.02
Total	5,486	1,306	24%	314	0.06

Table B-4

YSA Name	Yr Built	# Units	# Aff Units	% Affordable	Type		2014	2015	2016	2016 Yield
K-12 Student Yields in Mission Bay										
Stand Alone Affordable Housing										
Mercy Housing at 1180 4th St	2014	150	150	100%	apt		78	97	121	0.81
Rich-Sorro Commons	2002	100	100	100%	apt		54	51	50	0.50
Crescent Cove	2007	236	236	100%	apt		49	47	53	0.22
Mission Walk	2009	131	131	100%	condo		24	21	29	0.22
Subtotal		617	617				205	216	253	0.41
Inclusionary Housing										
The Beacon	2004	595	26	4%	condo		12	12	16	0.03
Avalon I	2003	250	21	8%	apt		1	2	4	0.02
Avalon II at Mission Bay	2006	313	19	6%	apt		6	7	5	0.02
Madrone at Mission Bay by BOSA	2012	329	27	8%	condo			1	1	0.00
Eviva Mission Bay	2016	129	26	20%	apt					0.00
Subtotal		1616	119				19	22	26	0.02
Market Rate Housing										
Signature III	2006	99	0	0%	condo		2	3	4	0.04
Radiance	2008	99	0	0%	condo		1	2	2	0.02
Channel Park (Signature 1)	2004	100	0	0%	condo			1	2	0.02
MB360 Phase 2	2016	188	0	0%	apt				2	0.01
Strata - Urban Housing Group	2009	192	0	0%	apt		2		2	0.01
Edgewater Apts	2007	194	0	0%	apt				2	0.01
Channel Apts	2014	315	0	0%	apt			3	3	0.01
Park Terrace	2007	110	0	0%	condo		1	1	1	0.01
Avalon at Mission Bay III	2009	260	0	0%	apt		2	2	2	0.01
Arden	2016	267	0	0%	apt				1	0.00
Azure	2015	273	0	0%	apt				1	0.00
MB360, Phase 1	2015	133	0	0%	apt					0.00
Arterra	2008	267	0	0%	condo		1			0.00
Glassworks	2003	39	0	0%	condo					0.00
Venue Apts	2014	147	0	0%	apt					0.00
Subtotal		2683	0				9	12	22	0.01
Special Housing										
UCSF Campus Housing - MB	2005	430	430	100%	campus		14	10	13	0.03
Mission Creek Senior Community		140	140	100%	special			1		0.00
Total		5486	1306	24%			247	261	314	0.06

Parcmerced Housing

Parcmerced was built in the 1940s and currently contains 3,221 units, of which 1,683 are in towers and 1,538 are townhouse apartments. All units are older rentals and subject to rent control. It is likely that many of the residents have lived in Parcmerced for a long time and enjoy relatively low rents as a result.

As Table B-5 shows, the student yield is .08 in the towers and .13 in the townhouses.

Table B-5

SFUSD Student Yields in Parkmerced							
				Enrollments			
Name of Development	Type	# Units	2013	2014	2015	2016	2016 Yield
The Villas at Parkmerced	Towers	1,683	135	131	127	127	0.08
Parkmerced	THs	1,538	210	197	184	194	0.13
Total		3,221	345	328	311	321	0.10

UCSF Campus Housing

There are three campus housing developments in our database. The Parnassus campus is intended for families and has the highest yield (.13). See Table B-6.

Table B-6

SFUSD Student Yields in UCSF Campus Housing								
				# SFUSD Students				2016
Name of Development	Year Built	# Units	Neighborhood	2013	2014	2015	2016	Yield
UCSF Campus Housing - Mission Bay	2005	430	South of Market	8	14	10	13	0.03
UCSF Campus Housing - Parnissus Campus	1999	172	Inner Sunset	24	24	29	23	0.13
Loyola Village Residence Hall	2002	136	Inner Richmond	5	3	2	1	0.01
Total		738		37	41	41	37	0.05

SFHA or Former SFHA Public Housing[15]

San Francisco Housing Authority has managed 5,360 units of family public housing or former public housing. Table B-7 shows the yields in each development. Newer Hope VI developments are separated from the rest, though their yields are very similar to those in older

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[15] The management of many public housing projects has been transferred to private nonprofit developers through the RAD program. In the future, the SFHA may not be identified with these developments.

public housing. Also, the former public housing units that were rebuilt by non-profit developers have yields that are high, but not quite as high as those in other public housing. Overall, public housing units yield .62 students per unit.

Map B-3 shows the distribution of these developments.

Table B-7
SFUSD Student Yields in Public Housing

Name of Development	Type	Yr Built	# Units	Neighborhood	# SFUSD Students 2013	2014	2015	2016	Yield
Westbrook	apt	1957	225	Bayview	268	278	287	267	1.19
Joan San Jules Apts	apt	1962	2	Western Addition	8	4	3	2	1.00
Potrero Annex	apt	1955	137	Potrero Hill	130	144	139	128	0.93
Alice Griffith	apt	1963	254	Bayview	251	248	224	214	0.84
Robert B. Pitts Apts.	apt	1991	203	Western Addition	185	175	158	155	0.76
Sunnydale/Velasco	apt	1940	785	Visitacion Valley	560	592	604	584	0.74
Potrero Terrace	apt	1942	469	Potrero Hill	316	329	329	342	0.73
Alemany	apt	1971	164	Bernal Heights	119	107	111	113	0.69
Bayview Commons Apts	apt	2003	30	Bayview	19	24	22	20	0.67
Hunters Point West	apt	1954	133	Bayview	101	99	90	88	0.66
200 Randolph St/409 Head St	apt	1971	26	Ocean View	11	13	15	15	0.58
Hunters Point East	apt	1954	80	Bayview	43	47	48	40	0.50
Holly Courts	apt	1940	118	Bernal Heights	49	60	57	58	0.49
Hunters View - all	mixed	mixed	267	Bayview	128	116	106	111	0.42
Great Highway	apt	1972	16	Parkside	5	3	5	6	0.38
Westside Courts	apt	1943	136	Western Addition	54	46	41	44	0.32
Ping Yuen	apt	1955	234	Chinatown	79	81	73	67	0.29
Ping Yuen North	apt	1962	194	Chinatown	37	39	43	48	0.25
430 Turk St	apt	1987	89	Downtown/C.C.	2	2	2	1	0.01
Woodside Gardens	apt	1962	110	Twin Peaks			1	1	0.01
101 & 103 Lundys Ln	TH	1971	2	Bernal Heights					0.00
Subtotal			**3,674**		**2,365**	**2,407**	**2,358**	**2,304**	**0.63**
HOPE VI Rebuilts									
Bernal Dwellings Apts (Hope VI)	apt	2000's	160	Mission	126	129	130	129	0.81
Plaza East Apts (Hope VI)	apt	2005	193	Western Addition	158	155	141	145	0.75
Hayes Valley North Apts (Hope VI)	apt	1998	85	Western Addition	68	67	63	54	0.64
Hayes Valley South Apts (Hope VI)	apt	1999	110	Western Addition	63	68	65	68	0.62
Valencia Gardens (Hope VI)	apt	2006	260	Mission	190	180	165	158	0.61
North Beach Place (Hope VI)	apt	2004	341	North Beach	204	182	167	168	0.49
Subtotal			**1,149**		**809**	**781**	**731**	**722**	**0.63**
Previously Public Housing									
Geneva Terrace Townhouses	TH		189	Visitacion Valley	163	156	146	156	0.83
Bayshore	condo	2005	12	Visitacion Valley	11	9	7	7	0.58
Schwerin & Garrison	apt		148	Visitacion Valley	101	96	84	83	0.56
Merla & Tomaso Cts SFUs	SFU		96	Visitacion Valley	73	64	62	50	0.52
Britton Courts	apt		92	Visitacion Valley	70	60	10	7	0.08
Subtotal			**537**		**418**	**385**	**309**	**303**	**0.56**
Grand Total			**5,360**		**3,592**	**3,573**	**3,398**	**3,329**	**0.62**

Map B-3

San Francisco Unified School District
San Francisco Housing Authority (SFHA) Developments
by Number of Units

Map Layers
☐ Planning Neighborhood
Street

SFHA Developments
by Number of Units
■ Family
☐ Senior

750   402   2

0   .5   1   1.5
Miles

Lapkoff & Gobalet Demographic Research, Inc. 2/1/18
www.Demographers.com
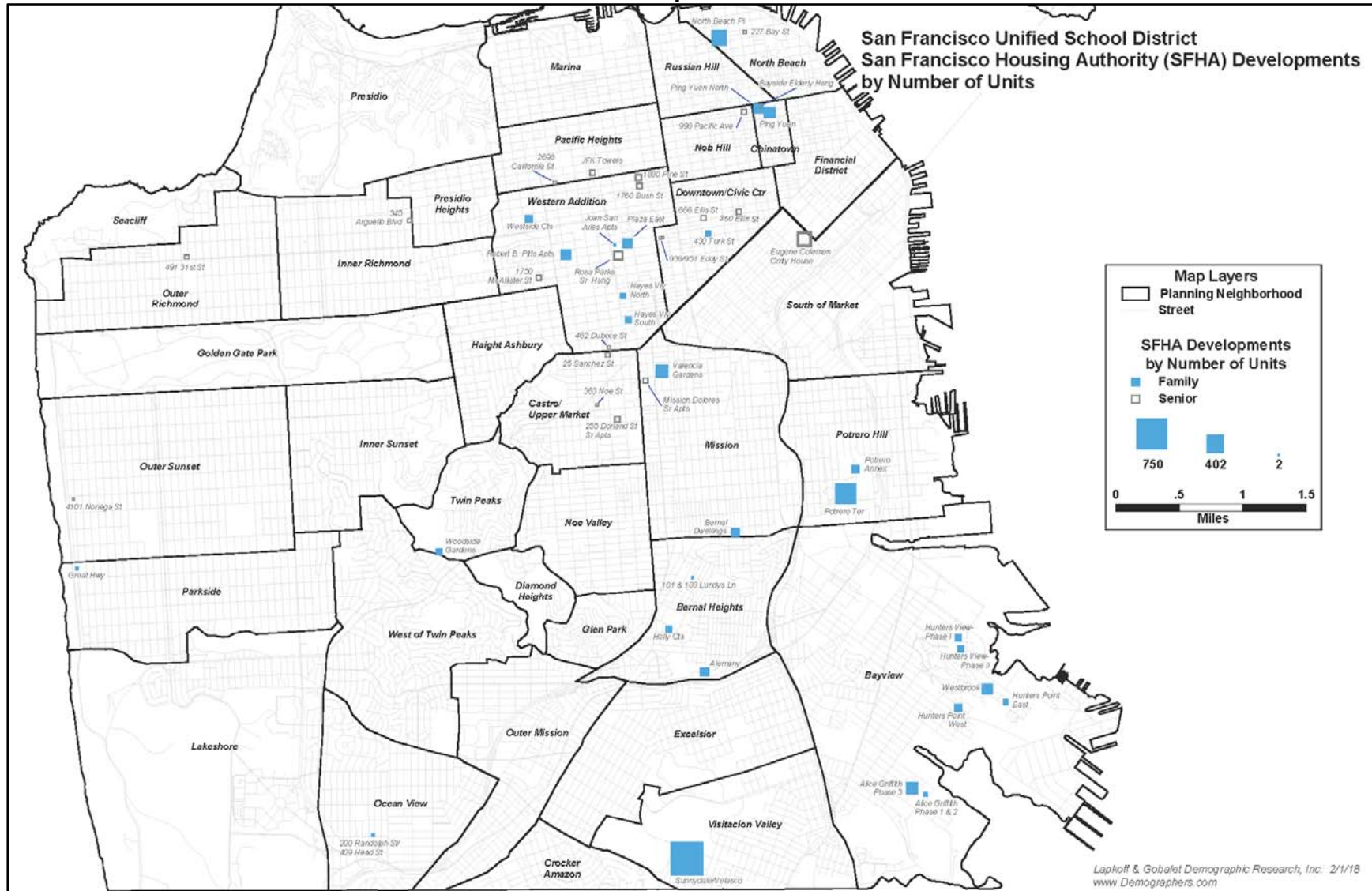
Selected Areas of Visitacion Valley

We measured student yields in Visitacion Valley (VV) because it is, at least in some areas, a mixed income neighborhood with characteristics we might find in the new neighborhoods. Public housing in VV is not isolated: it is surrounded by market-rate housing. The market-rate housing prices are much lower than prices expected in some of the new large neighborhoods (such as Treasure Island, Candlestick, and Hunters Point Shipyard), which may affect the utility of our findings, but we have so far not found other SF neighborhoods to guide our yield assumptions.

Table B-8 and Map B-4 show the various VV housing areas for which we have measured student yields. Note that there is one relatively new housing development that may resemble what we expect in the new housing areas. Bayside Vista/Lauren Court condos were built in 2008. As with most new housing developments, there are some inclusionary units. The overall yield for the complex is .22.

Sunnydale/Velasco public housing and the rebuilt Geneva Towers public housing are in VV. All of the stand alone housing is either public or former public housing. The stand alone housing yield is .71.

The yield in older, non-inclusionary, VV housing is .57. These are primarily lower-priced older single family houses.

Table B-8

SFUSD Student Yields in Visitacion Valley Selected Areas										
						# SFUSD Students				
Name of Development	Type	Yr Built	# Units	# Affordable Units	% Affordable	2013	2014	2015	2016	2016 Yield
Stand Alone Affordable Housing										
Bayshore	condo	2005	12	12	100%	11	9	7	7	0.58
Britton Courts	apt	2000	92	92	100%	70	60	58	56	0.61
Geneva Terrace Townhouses	TH	1960's	189	189	100%	163	156	146	156	0.83
Merla & Tomaso Cts SFUs	SFU	1963	96	96	100%	73	64	62	50	0.52
Schwerin & Garrison	apt	2000	148	148	100%	101	96	84	83	0.56
Sunnydale/Velasco	apt	1940	785	785	100%	560	592	604	584	0.74
Subtotal			**1,322**	**1,322**		**978**	**977**	**961**	**936**	**0.71**
Inclusionary Housing										
Bayside Vista/Lauren Ct. Condos	condo	2008	**64**	**6**	**9%**	**11**	**11**	**13**	**14**	**0.22**
Non-inclusionary Housing										
3180 & 3190 San Bruno Ave MFU	apt	1963	21	0	0%	3	3	3	5	0.24
Little Hollywood	SFU	1939	370	0	0%	196	175	168	157	0.42
Lois Ln SFUs	SFU	1997	48	0	0%	26	24	21	22	0.46
Visitation Valley larger SFUs	SFU	1980	77	0	0%	30	31	33	33	0.43
Visitation Valley NE small 1950s SFUs	SFU	1960	914	0	0%	455	433	430	415	0.45
Visitation Valley small 1940's SFUs	SFU	1945	941	0	0%	701	687	716	729	0.77
Subtotal			**2,371**	**0**		**1,411**	**1,353**	**1,371**	**1,361**	**0.57**
Special Housing										
John King Sr Center	special		91	90	99%	1	1	1	1	0.01
Grand Total			**3,848**	**1,418**		**2,401**	**2,342**	**2,346**	**2,312**	**0.60**

Map B-4

Condominiums

Table B-9 summarizes student yields in condominiums by BMR status and Table B-10 shows yields for each condominium. Stand alone (fully affordable) condominiums and those with at least 40% affordable units have similar yields - .34 and .32, respectively. In contrast, condominiums with the more usual inclusionary percentage (less than 20) have a yield of only .04. Market rate condominiums average .02.

Map B-5 shows the geographical distribution of condominiums.

Table B-9

Student Yields in Ownership Units (Condominiums, Co-ops, Townhomes), Built Pre-2010					
	# Units	# Affordable Units	% Affordable	2016 Enrollments	2016 Yield
Stand Alone Affordable	1,585	1,584	100%	535	0.34
Strongly Inclusionary (40-80% BMR)	654	430	66%	209	0.32
Inclusionary (10-20% BMR)	4,117	411	10%	163	0.04
Non-Inclusionary Market Rate	7,080	0	0%	145	0.02

Table B-10 (sorted by 2016 student yield)

Name	Yr Built	# Units	# Affordable Units	% Affordable	NEIGHBORHD	2013	2014	2015	2016	2016 Yield
Student Yields in Ownership Buildings										
							Enrollments			
Stand Alone (Nearly 100% BMR)										
Crystal Villa	1994	10	10	100%	Excelsior	11	10	10	9	0.90
True Hope Square	2006	20	20	100%	Bayview	16	15	15	18	0.90
Bancroft Ave Condos/Mendell St THs	2009	124	124	100%	Bayview	76	77	73	76	0.61
Bayshore	2005	12	12	100%	Visitacion Valley	11	9	7	7	0.58
Northridge Cooperative Homes	1983	300	300	100%	Bayview	146	158	151	167	0.56
Mariners Village	1968	97	97	100%	Bayview	62	59	55	45	0.46
Ammel Park Co-op	1975	120	120	100%	Western Addition	43	37	34	38	0.32
Banneker Homes Co-op	1967	107	107	100%	Western Addition	45	31	30	30	0.28
Candlestick View	1996	39	38	97%	Bayview	11	10	11	10	0.26
Mission Walk	2009	131	131	100%	South of Market	29	24	21	29	0.22
Aff. Condo Program - Endicott Ct	1890	14	14	100%	Western Addition	2	2	3	3	0.21
Freedom West I & II Co-op	1976	382	382	100%	Western Addition	71	65	65	70	0.18
MLK & Marcus Garvey Square Co-op	early 1960s	211	211	100%	Western Addition	35	36	38	33	0.16
Bay Oaks	2009	18	18	100%	Bayview	0	0	1	0	0.00
Subtotal		1,585	1,584	100%		558	533	514	535	0.34
Strongly Inclusionary (Nearly 40-80% BMR)										
Mosaica	2009	151	117	77%	Mission	121	121	120	126	0.83
Las Villas Court	1995	27	18	67%	Bayview	8	8	9	9	0.33
888 7th St	2007	224	170	76%	South of Market	54	57	59	55	0.25
Hillside Village	1992	62	39	63%	Bayview	16	13	12	13	0.21
101 Valencia	1997	116	49	42%	South of Market	8	4	6	5	0.04
1 Federal St	2003	46	24	52%	South of Market	1	1	1	1	0.02
Garfield Building	2007	28	13	46%	Downtown/Civic Center	0	0	0	0	0.00
Subtotal		654	430	66%		208	204	207	209	0.32
Inclusionary (4-20% BMR)										
Bayside Vista	2008	64	6	9%	Visitacion Valley	11	11	13	14	0.22
Sierra Heights	2006	67	7	10%	Potrero Hill	7	5	6	12	0.18
Candlestick Point Condos	2001 & 2007	324	32	10%	Bayview	27	26	25	32	0.10
The Lansing	2006	82	10	12%	South of Market	6	8	8	8	0.10
2125 Bryant St	2009	53	7	13%	Mission	4	4	4	5	0.09
Brannan Square		240	26	11%	South of Market	16	12	13	12	0.05
Book Concern Building	2006	60	6	10%	Downtown/Civic Center	4	3	3	3	0.05
2101 Bryant St	2009	23	2	9%	Mission	0	0	1	1	0.04
Fillmore Heritage	2007	80	12	15%	Western Addition	6	5	4	3	0.04
140 S Van Ness	2002	223	23	10%	South of Market	6	6	6	8	0.04
Watermark	2006	140	16	11%	South of Market	6	4	3	5	0.04
Odeon	2006	29	3	10%	Downtown/Civic Center	0	0	0	1	0.03
Bridgeview		245	24	10%	South of Market	4	5	6	8	0.03
The Metropolitan	2004	342	34	10%	South of Market	11	10	10	11	0.03
The Potrero		165	20	12%	Potrero Hill	3	5	4	5	0.03
199 New Montgomery St	2004	166	18	11%	Financial District	1	2	2	5	0.03
The Beacon	2004	595	26	4%	South of Market	11	12	12	16	0.03
Symphony Towers	2008	130	16	12%	Downtown/Civic Center	7	5	4	3	0.02
170 Off Third	2007	198	24	12%	South of Market	5	6	4	4	0.02
88 Townsend St	2004	112	13	12%	South of Market	2	2	2	2	0.02
The Hayes	2008	128	17	13%	Downtown/Civic Center	1	1	2	2	0.02
Broderick Place	2007	70	8	11%	Haight Ashbury	4	2	1	1	0.01
The Village at Petrini Place	2002	134	13	10%	Western Addition	3	2	3	1	0.01
Yerba Buena Lofts	2004	200	20	10%	South of Market	2	2	1	1	0.01
301 Bryant St		38	7	18%	South of Market	0	0	0	0	0.00
The Montgomery	2005	107	11	10%	Financial District	1	1	1	0	0.00
77 Bluxome St Condos	2008	102	10	10%	South of Market	0	0	0	0	0.00
Subtotal		4,117	411	10%		148	139	138	163	0.04

Table B-10, continued

			# Affordable				Enrollments			2016
Student Yields in Ownership Buildings										
Name	Yr Built	# Units	Units	% Affordable	NEIGHBORHD	2013	2014	2015	2016	Yield
Non-Inclusionary										
Garnett Terrace	1996	28	0	0%	Bayview	11	10	11	10	0.36
Stoneridge Condos	1994	94	0	0%	Crocker Amazon	23	21	18	19	0.20
Morgan Heights	1989	63	0	0%	Bayview	10	11	8	7	0.11
Oceanview Village	2002	370	0	0%	Ocean View	31	27	31	37	0.10
Signature III	2006	99	0	0%	South of Market	2	2	3	4	0.04
Museum Parc	1988	232	0	0%	South of Market	3	5	8	8	0.03
1310 Minnesota St Lofts	2002	30	0	0%	Potrero Hill	0	0	0	1	0.03
Bluxome St Lofts	1997	102	0	0%	South of Market	3	6	5	3	0.03
Laguna Eichler	1963	150	0	0%	Western Addition	4	3	4	4	0.03
1001 Pine St	1963	160	0	0%	Nob Hill	4	4	4	4	0.03
The Hamilton	1962	185	0	0%	Downtown/Civic Center	3	4	5	4	0.02
1901 Van Ness Ave	2001	149	0	0%	Pacific Heights	2	3	4	3	0.02
Channel Park (Signature 1)	2004	100	0	0%	South of Market	0	0	1	2	0.02
Telegraph Landing	1975	151	0	0%	North Beach	1	3	4	3	0.02
One Bluxome	2003	54	0	0%	South of Market	0	1	1	1	0.02
Baycrest Towers	1991	287	0	0%	South of Market	4	4	5	5	0.02
Daniel Burnham Ct	1987	244	0	0%	Western Addition	4	4	6	4	0.02
Oriental Warehouse		66	0	0%	South of Market	0	0	0	1	0.02
The Brannan	2002	338	0	0%	South of Market	2	3	4	5	0.01
One Embarcadero South		233	0	0%	South of Market	4	4	4	3	0.01
Opera Plaza	1982	450	0	0%	Downtown/Civic Center	5	6	2	5	0.01
Parc Telegraph	1993	289	0	0%	North Beach	2	2	3	3	0.01
The Palms		300	0	0%	South of Market	3	4	3	3	0.01
Park Terrace	2007	110	0	0%	South of Market	1	1	1	1	0.01
Clocktower Lofts	1993	127	0	0%	South of Market	0	0	0	1	0.01
La Galleria	1982	143	0	0%	Nob Hill	1	1	1	1	0.01
Radiance	2008	417	0	0%	South of Market	2	1	2	2	0.00
Portside I and II	1997	216	0	0%	South of Market	4	4	3	1	0.00
Glassworks	2003	39	0	0%	South of Market	0	0	0	0	0.00
1170 Sacramento St	1963	72	0	0%	Nob Hill	0	0	0	0	0.00
301 Folsom St	1937	59	0	0%	South of Market	0	0	0	0	0.00
Cape Horn Warehouse		16	0	0%	South of Market	0	0	0	0	0.00
Arterra	2008	267	0	0%	South of Market	1	1	0	0	0.00
200 Townsend St	2003	51	0	0%	South of Market	0	0	0	0	0.00
733 Front St		69	0	0%	Financial District	0	0	0	0	0.00
1000 Van Ness St	1920	53	0	0%	Downtown/Civic Center	2	1	0	0	0.00
Ritz Carlton II/DeYoung Bldg	2007	52	0	0%	Financial District	0	0	0	0	0.00
Belles THs Presidio	post 2010	7	0	0%	Presidio	1	0	0	0	0.00
1200 Gough St	1966	136	0	0%	Western Addition	1	0	0	0	0.00
Pacific Heights Towers	1964	127	0	0%	Pacific Heights	0	0	0	0	0.00
101 Lombard St	1983	202	0	0%	North Beach	0	0	0	1	0.00
The Summit	1965	111	0	0%	Russian Hill	2	1	0	0	0.00
Blu Condos	2009	114	0	0%	South of Market	0	0	0	0	0.00
Sutterfield	1993	164	0	0%	Western Addition	0	1	1	0	0.00
Gramercy Towers	1974	254	0	0%	Nob Hill	0	0	0	0	0.00
Park Hill Condos	1986	100	0	0%	Castro/Upper Market	0	0	0	0	0.00
Subtotal		7,080	0	0%		136	138	142	145	0.02

Map B-5

San Francisco Unified School District
Ownership Condo and Townhome
Developments

Excludes developments
discussed elsewhere.

Map Layers
- Planning Neighborhood
- Street

Ownership Housing Type
- Stand-alone (nearly 100% BMR)
- Strongly Inclusionary (nearly 40-80% BMR)
- Inclusionary (4-20% BMR)
- Non-inclusionary

Number of Units
500   307.5   7.5

0   .5   1   1.5
Miles

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www.Demographers.com

Larger Apartment Complexes

Table B-11 summarizes student yields in larger apartment buildings and complexes built before 2010, not elsewhere reported, and Table B-12 shows student yields for each development. Non-inclusionary apartment buildings, some of which are older and probably have low rents, have yields of .08.

Map B-6 shows the geographical distribution of larger apartment buildings.

Table B-11

Student Yields in Rental Units Built Pre-2010, Not Elsewhere Reported					
	# Units	# Affordable Units	% Affordable	2016 Enrollments	2016 Yield
Inclusionary (10-20% BMR)	5,055	1,028	20%	236	0.05
Non-Inclusionary Market Rate	4,011	0	0%	314	0.08

Table B-12 (sorted by student yield in 2016)

Name	Year Built	# Units	# Affordable Units	% Affordable	NEIGHBORHD	2013	2014	2015	2016	2016 Yield
Student Yields in Rental Buildings (Excluding Stand Alone Affordable, Excluding Apartments Shown Elsewhere)								Enrollments		
Inclusionary										
College Park	1987	130	26	20%	Mission	143	138	139	135	1.04
Avalon at Nob Hill (AVA)	1990	95	37	39%	Downtown/Civic Center	9	9	8	7	0.07
Mei Lun Yuen	1982	185	32	17%	Chinatown	10	13	11	13	0.07
Northpoint Vistas	2007	72	9	13%	North Beach	1	1	1	3	0.04
Nihonmachi Terrace	1975	245	80	33%	Western Addition	10	10	10	9	0.04
SOMA Residences	2000	278	55	20%	South of Market	12	9	11	9	0.03
Metro @ Showplace Square	2008	148	15	10%	South of Market	3	4	5	4	0.03
Bayside Village		868	173	20%	South of Market	20	19	13	15	0.02
Fillmore Center Apartments		1114	223	20%	Western Addition	20	17	16	19	0.02
South Beach Marina		414	86	21%	South of Market	9	9	9	7	0.02
388 Beale St		226	23	10%	South of Market	6	6	3	3	0.01
Paramount		495	99	20%	Financial District	9	9	5	6	0.01
Rincon Center		320	64	20%	Financial District	2	4	3	3	0.01
Post Street Apartments		111	50	45%	Downtown/Civic Center	0	0	0	1	0.01
Loyola Village Residence Hall	2002	136	17	13%	Inner Richmond	5	3	2	1	0.01
Geary Courtyard Apartments	1990	164	32	20%	Downtown/Civic Center	4	3	2	1	0.01
3000 23rd St	2006	54	7	13%	Mission	1	0	0	0	0.00
Subtotal		5,055	1,028	20%		264	254	238	236	0.05
Non-Inclusionary (no affordable units)										
3180 & 3190 San Bruno Ave MFU	1963	21	0	0%	Visitacion Valley	3	3	3	5	0.24
Baker Beach Apts		403	0	0%	Presidio	96	100	90	89	0.22
UCSF Campus Housing - Parnissus Campus	1999	172	0	0%	Inner Sunset	24	24	29	23	0.13
The Villas at Parkmerced	1942	765	0	0%	Lakeshore	72	65	70	74	0.10
Lakewood Apts	1974	722	0	0%	Lakeshore	50	51	50	54	0.07
Folsom Dore Apts		98	0	0%	South of Market	7	5	7	7	0.07
The Villas at Parkmerced	1942	612	0	0%	Lakeshore	51	49	40	42	0.07
1235 Bush St	1926	24	0	0%	Downtown/Civic Center	0	1	1	1	0.04
The Villas at Parkmerced	1942	306	0	0%	Lakeshore	12	17	19	12	0.04
2000 Post St		302	0	0%	Western Addition	2	3	7	7	0.02
Fox Plaza	1966	444	0	0%	Downtown/Civic Center	3	2	1	0	0.00
Four Seasons Residences	2001	142	0	0%	Financial District	0	0	0	0	0.00
Subtotal		4,011	0	0%		320	320	317	314	0.08

Map B-6

San Francisco Unified School District
Rental Developments Built Prior to 2010

*Excludes developments
discussed elsewhere.*

Northpoint Vistas

Marina

Russian Hill

North Beach

Presidio

Chinatown

Pacific Heights

Nob Hill

Me Lun Yuen

Financial District

1235 Bush St

Rincon Ctr

388 Beale St

Presidio Heights

2000 Post St

AVA

Post St Apts

Four Seasons Res

Baker Beach Apts

Seacliff

Nihonmachi Ter

Geary Courtyard

Paramount

Bayside Vlg

Inner Richmond

Fillmore Ctr Apts

Downtown/ Civic Ctr

South Beach Marina

Outer Richmond

Loyola Vlg Res Hall

Western Addition

1390 Market St

SOMA Res

South of Market

Haight Ashbury

Folsom Dore Apts

Golden Gate Park

Metro @ Showplace Sq

Castro/ Upper Market

Mission

Potrero Hill

Inner Sunset

UCSF Hsng - Parnissus Campus

Outer Sunset

Twin Peaks

Noe Valley

3000 23rd St

College Park

Diamond Heights

Parkside

Bernal Heights

West of Twin Peaks

Glen Park

Bayview

Lakeshore

The Villas at Parkmerced

Outer Mission

Excelsior

3180-90 San Bruno Ave MFU

Ocean View

Lakewood Apts

Visitacion Valley

Crocker Amazon

Map Layers

☐ Planning Neighborhood
    Street

Rental Housing Type
■ Inclusionary
■ Non-inclusionary (no affordable units)

Number of Units

1,000   620   20

0   .5   1   1.5
Miles

Lapkoff & Gobalet Demographic Research, Inc. 2/1/18
www.Demographers.com

Appendix C: Alternative Enrollment Forecast Scenarios for Students Living in Existing Housing

In Chapter III, we presented a forecast for students living in existing housing that is based on five-year average K/B ratios and grade progressions. To assess how sensitive our results are to different sets of assumptions, we developed alternative forecasts that are reported in this Appendix. It turns out that the forecasts are very similar, suggesting that they are reliable (consistent).

Here we provide three alternative forecasts, each using a different set of assumptions for the grade progressions and K/B ratios.

1. **Current year rates** continue indefinitely: using grade progressions between fall 2015 and fall 2016 and the K/B ratio from 2016 (see Table III-3).

2. **10-year average rates** continue indefinitely: using average grade progressions between fall 2007 and fall 2016 and the K/B ratio for the 10-yr average (see Table III-3).

3. **20-year average rates** continue indefinitely: using average grade progressions between fall 1997 and fall 2016 and the K/B ratio for the 20-year average (see Table III-3).

The results of these forecasts do not differ substantially. Chart C-1 and Table C-1 show the enrollment forecasts by school level through 2030.   The forecast used in Chapter III is provided as well. While there is some variation in the middle and high school forecasts, the forecasts have remarkably similar results.
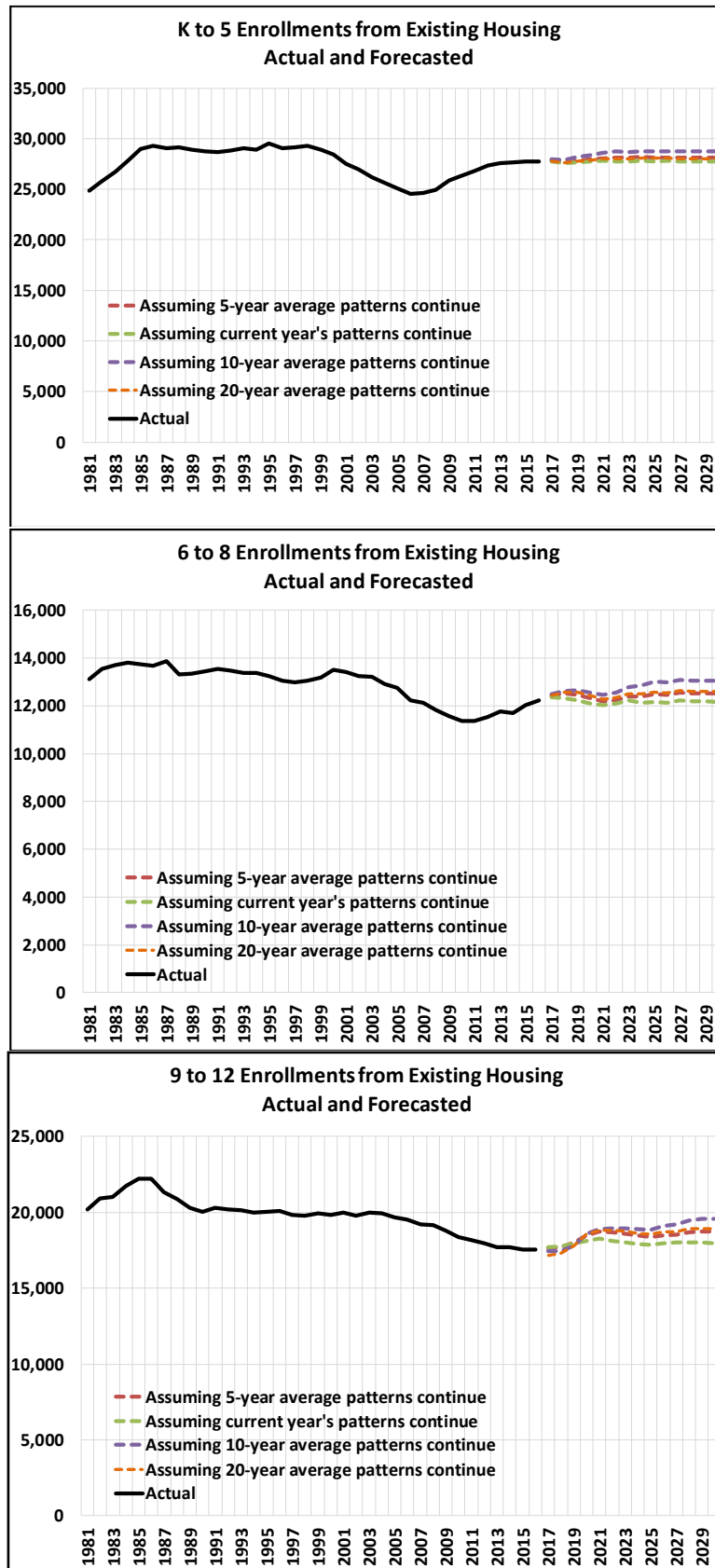
Chart C-1

K to 5 Enrollments from Existing Housing
Actual and Forecasted

Legend:
- Assuming 5-year average patterns continue
- Assuming current year's patterns continue
- Assuming 10-year average patterns continue
- Assuming 20-year average patterns continue
- Actual

6 to 8 Enrollments from Existing Housing
Actual and Forecasted

Legend:
- Assuming 5-year average patterns continue
- Assuming current year's patterns continue
- Assuming 10-year average patterns continue
- Assuming 20-year average patterns continue
- Actual

9 to 12 Enrollments from Existing Housing
Actual and Forecasted

Legend:
- Assuming 5-year average patterns continue
- Assuming current year's patterns continue
- Assuming 10-year average patterns continue
- Assuming 20-year average patterns continue
- Actual

Table C-1

Total (K-12) Enrollment Forecasts

		Assumptions Used in Forecast Model			
Year	Actual	Assuming 5-year average patterns continue	Assuming current year's patterns continue	Assuming 10-year average patterns continue	Assuming 20-year average patterns continue
2016	**57,531**				
2017		57,875	57,768	57,850	57,361
2018		57,878	57,637	57,966	57,480
2019		58,325	57,879	58,654	58,118
2020		58,720	57,985	59,519	58,887
2021		58,980	58,101	59,966	59,144
2022		59,025	58,001	60,191	59,212
2023		59,056	57,952	60,392	59,271
2024		59,037	57,887	60,514	59,231
2025		58,988	57,810	60,593	59,204
2026		59,100	57,881	60,822	59,315
2027		59,229	57,986	61,034	59,430
2028		59,330	57,977	61,231	59,549
2029		59,403	57,963	61,354	59,565

Elementary (K to 5) Enrollment Forecasts

		Assumptions Used in Forecast Model			
Year	Actual	Assuming 5-year average patterns continue	Assuming current year's patterns continue	Assuming 10-year average patterns continue	Assuming 20-year average patterns continue
2016	**27,757**				
2017		27,797	27,732	27,946	27,779
2018		27,651	27,548	27,915	27,622
2019		27,828	27,687	28,188	27,777
2020		27,935	27,766	28,384	27,888
2021		28,062	27,791	28,599	28,031
2022		28,126	27,771	28,718	28,050
2023		28,090	27,735	28,679	28,013
2024		28,184	27,829	28,777	28,107
2025		28,132	27,777	28,723	28,055
2026		28,150	27,795	28,742	28,073
2027		28,125	27,770	28,717	28,049
2028		28,125	27,770	28,717	28,049
2029		28,125	27,770	28,717	28,049

Middle School (6 to 8) Enrollment Forecasts*

		Assumptions Used in Forecast Model			
Year	Actual	Assuming 5-year average patterns continue	Assuming current year's patterns continue	Assuming 10-year average patterns continue	Assuming 20-year average patterns continue
2016	**12,219**				
2017		12,426	12,347	12,472	17,432
2018		12,426	12,347	12,472	12,442
2019		12,507	12,331	12,623	12,566
2020		12,459	12,237	12,655	12,584
2021		12,323	12,078	12,567	12,431
2022		12,199	12,017	12,467	12,280
2023		12,233	12,094	12,540	12,339
2024		12,390	12,226	12,782	12,500
2025		12,391	12,133	12,864	12,516
2026		12,501	12,166	13,028	12,585
2027		12,450	12,115	12,974	12,534
2028		12,561	12,224	13,091	12,645
2029		12,513	12,176	13,040	12,597

High School (9-12) Enrollment Forecasts

		Assumptions Used in Forecast Model			
Year	Actual	Assuming 5-year average patterns continue	Assuming current year's patterns continue	Assuming 10-year average patterns continue	Assuming 20-year average patterns continue
2016	**17,555**				
2017		17,652	17,689	17,432	0
2018		17,652	17,689	17,432	17,140
2019		17,719	17,758	17,427	17,292
2020		18,038	17,955	17,811	17,757
2021		18,461	18,141	18,568	18,568
2022		18,718	18,293	18,900	18,833
2023		18,665	18,135	18,933	18,823
2024		18,577	17,992	18,931	18,758
2025		18,461	17,926	18,873	18,608
2026		18,355	17,867	18,842	18,564
2027		18,500	17,971	19,105	18,708
2028		18,542	17,992	19,227	18,736
2029		18,692	18,031	19,474	18,904

Appendix D: Analysis of Private School Enrollment Rates in San Francisco

In Chapter IV ("Census Bureau Surveys on Private School Shares") we estimated private school enrollment rates from the single-year American Community Survey estimates for 2006-2016 (ACS). The ACS is a survey administered by the U.S. Census Bureau and was intended to replace the decennial Census long form. In addition to published tables on private school rates, the ACS provides individual household data that can be downloaded and analyzed. We analyzed the five-year 2009-2013 ACS household-level estimates and the characteristics of San Francisco households that send their children to private school.

We first summarize these data, focusing on the percentage of students attending private school by various characteristics, namely:
- Family income/wealth;
- Race/ethnicity;
- Living arrangements;
- Type of housing;
- General location within the city; and
- Sex/gender of the student.

Many of these characteristics are correlated with private school enrollment rates, but we have performed a multiple regression analysis that allows us to control for each variable and identify which ones significantly influence these rates. For example, children living with only their mothers are much less likely to attend private school than children living with both parents, which is statistically significant in a simple correlation. However, once we control for other variables, we find that children's living arrangements (whether they live with both of their parents, their mothers only, or their fathers only) does not have a statistically significant effect.

Summary of Findings

- *The analyses suggest that approximately* **one in four children (26 percent) living in San Francisco attends private school**, *which corresponds to ACS estimates.*

- **Household income** *is the single most important variable that explains enrollment in private schools by San Francisco residents, even when controlling for race, place of birth, and area of residence. The wealthier the child's family, the more likely the child is to attend private school, whatever his/her race or ethnicity, the San Francisco neighborhood in which he/she lives, and whether he/she was born in the United States.*

- **Race** *is the second most important factor after income. White children are far more likely to attend private school than children of other races, e.g., Hispanic, Asian, or African American. This is true even after we control for income/wealth.*

- *The* **neighborhood** *in which children live makes some difference in whether they attend private school. Children living in the North Beach-Chinatown neighborhood are more likely to attend private school than children in the other neighborhoods after we control for other factors, like race and income. Map D-1 shows that the North Beach-Chinatown area has lower private school enrollment rates than the northwestern area, but the map does not control for socio-economic factors.*
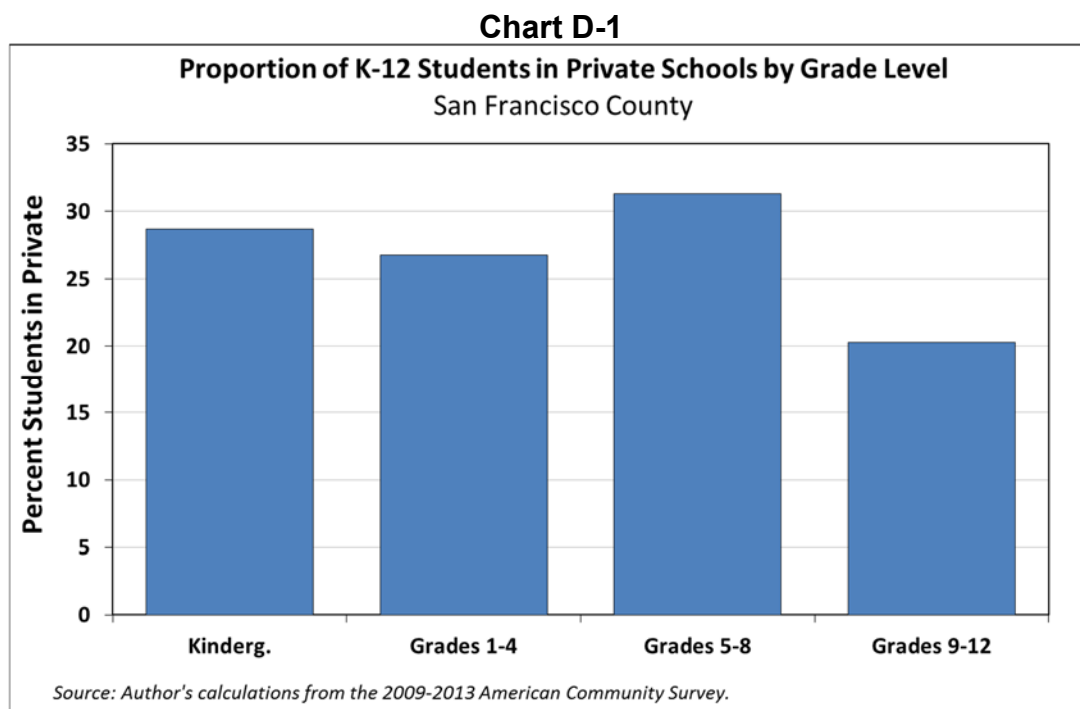
The 2009-2013 American Community Survey (ACS)

The 2009-2013 ACS sampled 17,921 San Francisco County households that contained 36,212 individuals (including 3,422 K-12 students).[16] The sample is representative to the extent that it provides an accurate picture of the overall population of San Francisco County. In other words, the distribution of the survey populations of housing and individuals over the available variables is more or less identical to the distribution that would be found in the overall population of San Francisco County if it could be calculated exhaustively. Statistical weights[17] are provided in the ACS to extrapolate from the sample to the overall population.

Questions were asked in the survey about whether a child attends public or private school and at which grade level (but not the exact grade). It is therefore possible to compare the characteristics of public and private school students. Some of these characteristics (age, sex, and race/ethnicity) can be measured at the individual level and some can be measured at the household level (type of housing unit, economic activity of the parents, household income, etc.). Results of bivariate and multivariate analyses of the characteristics of private school students are presented below.

Private vs. public school students by grade level

Twenty-six percent of the kindergarten-through-twelfth grade students in households sampled in the ACS for 2009-2013 were enrolled in private schools. As indicated by Chart D-1, the highest proportion was enrolled in middle school (31 percent), followed by kindergarten (29 percent), elementary schools (27 percent), and high school (20 percent).

Chart D-1

Proportion of K-12 Students in Private Schools by Grade Level
San Francisco County

Source: Author's calculations from the 2009-2013 American Community Survey.

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[16] The survey was conducted during the entire five-year period, so the number of households sampled each year was about one-fifth of the total.

[17] Statistical weights were used throughout the analyses reported here.
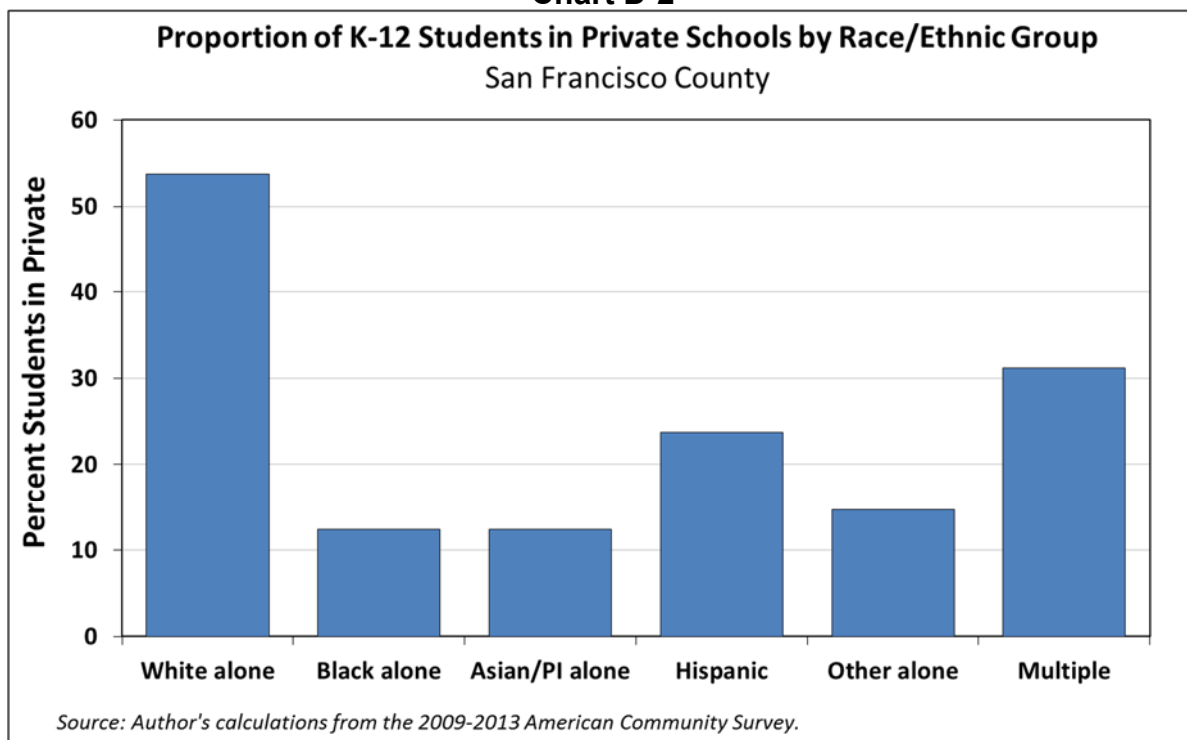
<u>Sex/gender</u>

Boys are more likely than girls to attend private school: during the five-year period covered by this ACS survey, 28 percent of boys were enrolled in private school compared to 24 percent of girls. This difference could result from a higher frequency of disciplinary referrals for boys, because some parents may transfer children to private schools if they are having difficulties in the public schools.

<u>Race and ethnicity</u>

The ACS gathers information on self-declared race/ethnicity, and several answers were possible on each of the race/ethnicity questions. We constructed a variable to identify students declared as "White only," "African American only," "Asian or Pacific Islander only," and "Hispanic" (we decided to group into this latter category everyone declared as "Hispanic," regardless of whether additional ethnicities were declared, since the Census Bureau does so in its exclusive race/ethnic categories), "Other race only," and "Multiple races." Large differences in the proportions of students in private schools were exhibited using this variable (Chart D-2).

"White only" children have the largest share enrolled in private schools (54 percent), followed by "Multiple races/ethnicities" (31 percent), "Hispanic" (24 percent), "Other races" (15 percent), "Asian or Pacific Islander only" (12 percent), and "African-American only" (12 percent).

Chart D-2

Proportion of K-12 Students in Private Schools by Race/Ethnic Group
San Francisco County

Source: Author's calculations from the 2009-2013 American Community Survey.

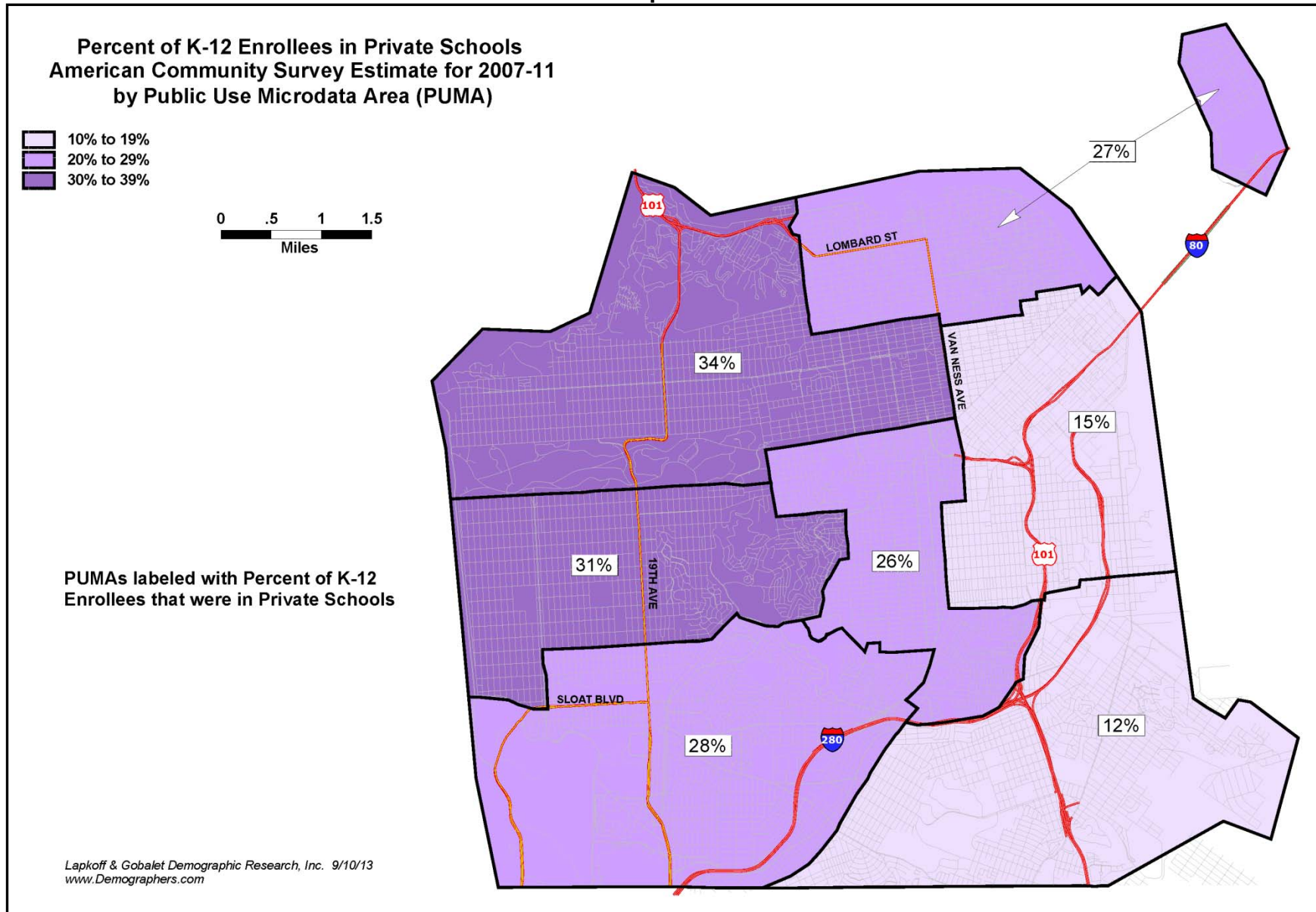<u>Place of birth and nationality</u>

Place of birth makes a big difference, with U.S.-born students being nearly three times more likely to attend private school than foreign-born students (28 percent versus 10 percent). Among foreign-born students, those who are (or whose parents are) naturalized U.S. citizens are more

likely to attend private school than those who are non- citizens (18 percent versus six percent). We suspect that it is not naturalization *per se* which increases the odds of attending private school, but some underlying characteristics more commonly found among both naturalized U.S. citizens and students in private schools. For instance, immigrants with a high level of education might be more likely to be naturalized *and* to send their children to private school. Another factor that could explain this finding is the ability to speak English well: we found that students who do not speak English fluently are much less likely to attend private school than others (15 percent versus 27 percent). The fact that non-U.S. citizens are less likely to speak English fluently than those who are citizens by birth or naturalization could explain this.

Residential Neighborhood

The ACS survey provides general information on the respondent's area of residence within the County. Though we do not know the exact location (for the sake of confidentiality), we know in which of the seven neighborhoods defined in the ACS each household is located. The Census Bureau calls these areas "Public Use Microdata Areas," or "PUMAs." Map D-1shows the area covered by each of the seven PUMAs and reflects private school enrollment estimates from the 2007-2011 ACS survey.

Map D-1

Percent of K-12 Enrollees in Private Schools
American Community Survey Estimate for 2007-11
by Public Use Microdata Area (PUMA)

10% to 19%
20% to 29%
30% to 39%

0   .5   1   1.5
Miles

PUMAs labeled with Percent of K-12
Enrollees that were in Private Schools

27%

34%

15%

31%

26%

28%

12%

LOMBARD ST

VAN NESS AVE

19TH AVE

SLOAT BLVD

101

80

101

280

Lapkoff & Gobalet Demographic Research, Inc. 9/10/13
www.Demographers.com

<u>Income and wealth</u>

The ACS provides estimates for a number of variables that reflect a household's standard of living. Among these are household income, household poverty status,[18] and allocation of food stamps. All these variables unsurprisingly point to the same fact that children living in wealthy or relatively wealthy households are more likely to attend private school than children living in poor households. When dividing children according to household income quartiles (Chart D-3), private school attendance in the poorest quartile is six times lower than in the wealthiest quartile (10 percent versus 60 percent). The private school rate steadily increases with increased income.

Chart D-3

Source: Author's calculations from the 2009-2013 American Community Survey.
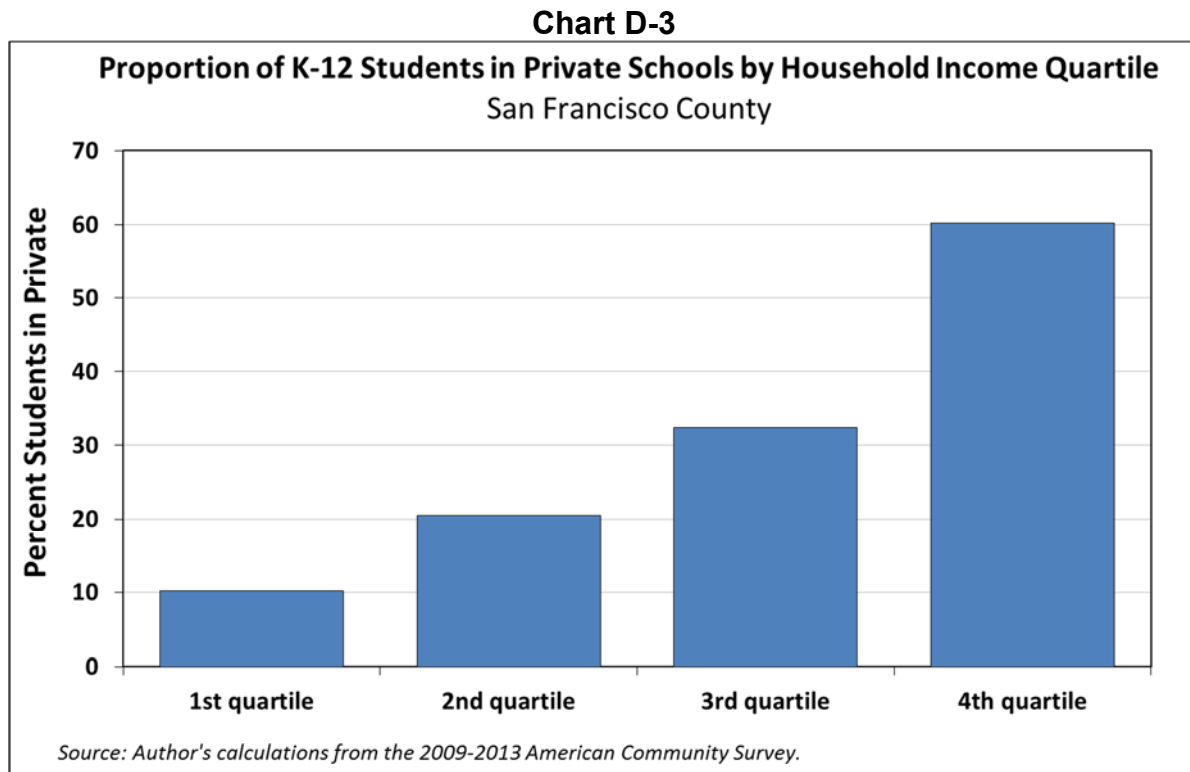
Children living in households receiving food stamps are six times less likely to attend private school than others (six percent and 30 percent, respectively).

<u>Living arrangements</u>

Most K-12 students in San Francisco (nearly 70 percent) live with both of their parents. The others are more likely to live with their mothers only (24 percent of the total) than with their

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[18] The ACS documentation explains the way in which a person's poverty status is measured: "To determine whether someone is in poverty, their total family income is compared with the poverty threshold appropriate for that person's family size and composition. If the total income of the family is less than the threshold, then the person and every member of the family are considered to be in poverty." We summarized the original variable to construct four categories corresponding to (1) a household income less than 50 percent of the poverty line defined in the 2009-2013 ACS, (2) a household income between 50 and 150 percent of the poverty line, (3) a household income 150 to 250 percent of the poverty line, and (4) all remaining households (with higher incomes).

fathers only (six percent). The highest rate of children enrolled in private school is found for those living with both parents (30 percent). Among the children living with only one of their parents, those living with their fathers are more likely to attend private school than those living with their mothers (28 percent versus 20 percent).

Type of housing

The ACS does not provide information about whether respondents live in public or other below-market-rate housing, but it does report whether they live in single family units (detached or attached), two-unit buildings (duplexes), three-to-four unit buildings (three- and fourplexes), five-to-nine-unit buildings, 10-to-19-unit buildings, 20-to-49-unit buildings, and 50-or-more-unit buildings.

Chart D-4 shows the proportion of students in private schools according to the type of housing in which they live. Children in single-family homes are much more likely to attend private schools (with 34 percent and 28 percent of the students living in, respectively, detached and attached single-family homes attending private schools) than children in other housing types. The smallest proportion of children in private schools is found among those living in five-to-nine unit apartment buildings (11 percent).

Chart D-4
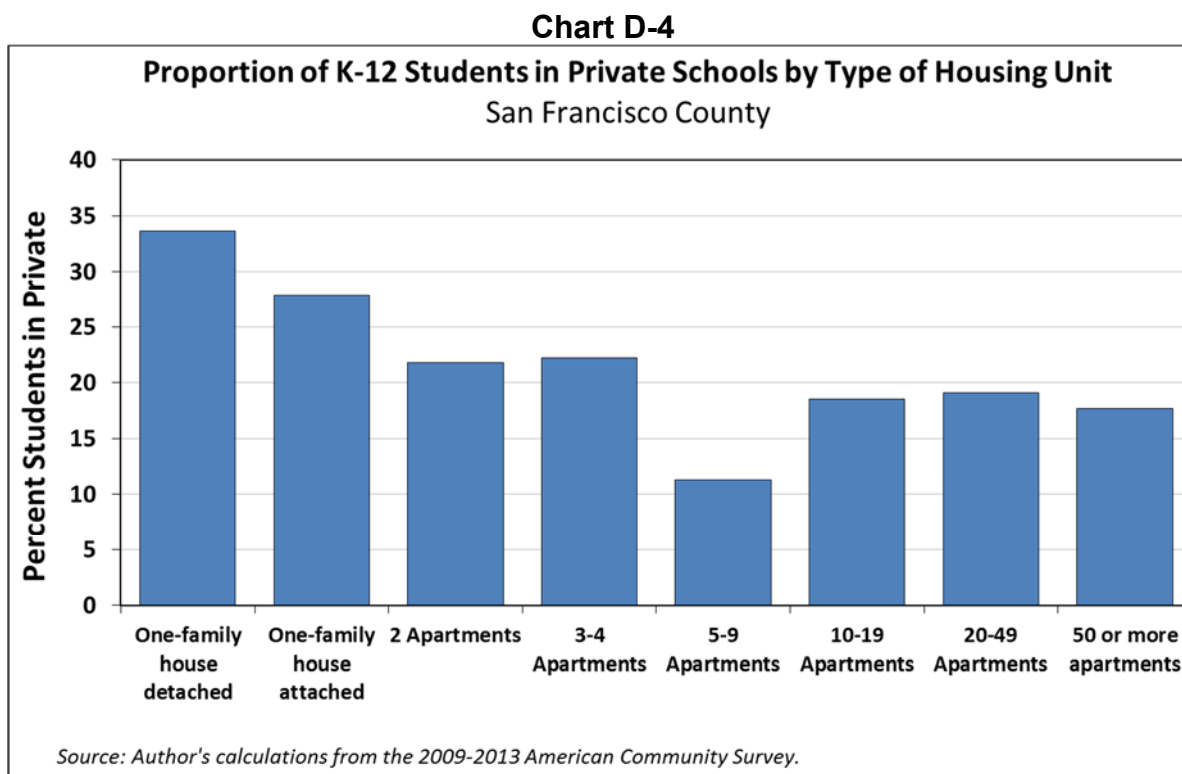
Though very informative, the bivariate analyses are not entirely satisfying, because of obvious correlations among the variables examined. One would want to know, for instance, whether the differences in the proportion of children in private school found among racial and ethnic groups are due to differences in household income among these varied groups. Perhaps the smaller

proportion of African American children compared with Whites in private schools results from the higher prevalence of poverty among the former compared with the latter. Multivariate analysis is one of the most powerful statistical tools that can be implemented to disentangle the effects of interrelated explanatory variables (race/ethnicity, area of residence, household income, etc.) on the outcome variable (attending private school).

Results of the multivariate analysis

We carried out a logistic regression analysis on the odds of attending private school, including the following explanatory variables: race/ethnicity (with "White" as the reference category), place of birth (the United States), sex (female), living arrangements (living with both parents), geographic location (PUMA 7501—the Richmond District—as the reference), housing type (single family detached home), and household income (poorest quartile) and whether the household received food stamps (with non-food-stamp recipient households as the reference). To avoid multicollinearity and redundancy we did not use all of the available variables, and we regrouped the categories for some variables in order to increase statistical power. Results are presented in Table D-1.

Due to the large sample size, nearly all of the variables which were significant in the bivariate analyses remain statistically significant once all the other variables are considered. However, the strength of the effects of most variables is quite different in the multivariate logistic regression compared to the bivariate analysis (smaller for some, larger for others) though the effects are always in the same direction in both types of analyses.

The strongest impacts are those of *race/ethnicity* and *income*. The odds of attending private school for White children are five times higher than those for Asian and Pacific Islander students and three times higher than those for African American students. Interestingly, the effects of being Hispanic are smaller in the multivariate than in the bivariate analysis, suggesting that it is mitigated by other variables in the model: it is not so much the fact of being Hispanic *per se* that affects the odds of attending private school but the fact that being Hispanic is often congruent with other demographic, social, or economic characteristics which have a strong impact on these odds, such as income or immigration status. Hispanics born in the United States have about half the odds of attending private school as White children but if they are born outside of the United States, the odds are only a quarter of those of White children (as the odds are multiplicative).

The impact of household income is even stronger than the effect of race: The odds of attending private school for children living in a family in the highest of the four *income* brackets are also six times higher than those for children in the lowest income bracket. The effect of poverty on the reduced odds of attending private school is also reflected by the fact that students in families who receive *food stamps* are only a fifth as likely to attend private school as those in other families.

Living with just a father considerably increases the odds of attending private school but, once all the other variables are held constant, children living only with a mother are not significantly less likely to attend private school than children living with both parents.

The *area of residence* also has a significant effect (once we control for other factors): children living in North Beach - Chinatown are much more likely to attend private school than children in other neighborhoods (with odds about sixty percent higher).

Last, among children in *single-family homes,* the odds of attending private school are more than fifty percent higher than those of children living in apartment buildings.

Interestingly, the odds of attending private school for children living in households with a foreign-born head are about half as high as those in households with native-born head, even after controlling for all the other variables.

To summarize the statistical findings, wealthy, native-born, white people living in single family housing units of San Francisco are much more likely to send their children to private school than others.

Table D-1 Logistic regression on the odds of attending private school in San Francisco County

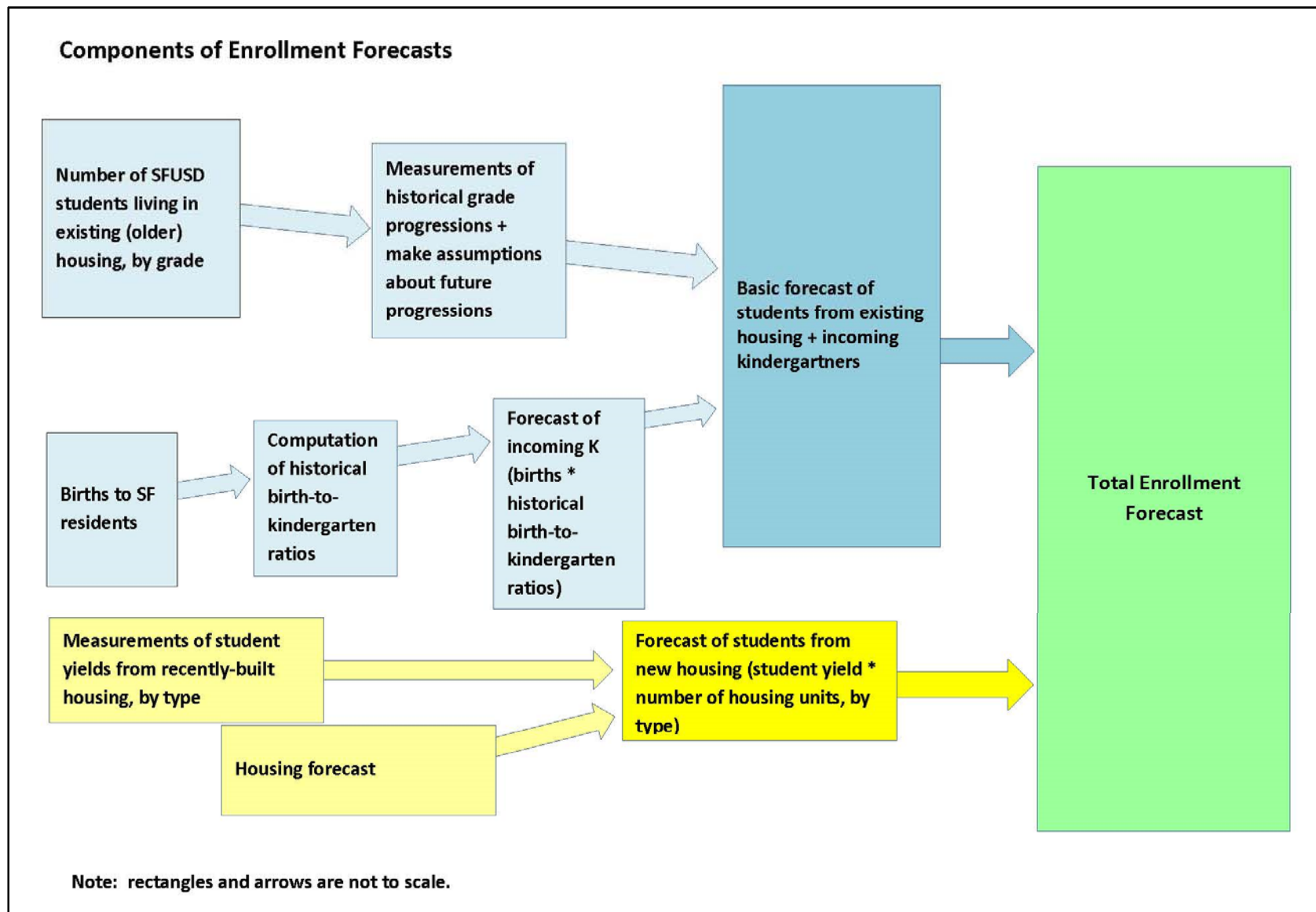| Explanatory variable	Odds ratio	P>|z]
Race and ethnicity		
White	Reference	
African American	0.332	***
Asian/Pacific Islander	0.200	***
Hispanic	0.559	***
Multiple or other race	0.445	***
Place of birth		
The United States	Reference	
Foreign born	0.522	***
Sex		
Male	1.202	*
Female	Reference	
Living arrangements		
With both parents	Reference	
With father only	1.671	*
With mother only	1.231	
Neighborhood (PUMA)		
Richmond District	Reference	
North Beach - Chinatown	1.596	***
South of Market - Potrero	Omitted±	
Inner Mission - Castro	Omitted±	
Sunset District North	Omitted±	
Sunset District South	Omitted±	
Bayview - Hunters Point	Omitted±	
Housing type		
Single family home, detached	Reference	
Single family home, attached	1.141	
2-to-4-units building	0.651	***
5-to-20-units building	0.600	**
Other building types	0.936	
Household income		
First quartile	Reference	
Second quartile	1.516	**
Third quartile	2.483	***
Fourth quartile	5.980	***
Food stamps		
No	Reference	
Yes	0.273	***
Number of observations	3294	
Wald Chi2	484.2	***

Pseudo R2	0.2007

Significant at the following thresholds: *** 1%, ** 5%, *10%.
± These categories have been automatically omitted because they are too closely correlated with the other variables in the model.
Source: Author's analysis of the 5-year ACS data for 2009-2013.

Appendix E: Diagrams showing components of enrollment forecasts and SFUSD enrollment flows

Components of Enrollment Forecasts

Number of SFUSD students living in existing (older) housing, by grade

→ Measurements of historical grade progressions + make assumptions about future progressions

Births to SF residents → Computation of historical birth-to-kindergarten ratios → Forecast of incoming K (births * historical birth-to-kindergarten ratios)

→ Basic forecast of students from existing housing + incoming kindergartners

Measurements of student yields from recently-built housing, by type

Housing forecast

→ Forecast of students from new housing (student yield * number of housing units, by type)

→ Total Enrollment Forecast

Note: rectangles and arrows are not to scale.

Components of SFUSD Enrollment Flows

Children born in SF

Move away before K

Children born elsewhere, then move

Incoming Kindergartners

Children new to SF join existing cohorts

SFUSD Public School Enrollments

Graduate

Move away

Private Schools

Graduate or move away

Note: rectangles and arrows are not to scale.